

Lwarp

LATEX HTML5

The **lwarp** package

LATEX to HTML

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© 2016–2021 Brian Dunn
bd@BDTechConcepts.com

Abstract

The **lwarp** package converts LATEX to HTML by using LATEX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 LATEX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF LATEX, LuaLATEX, XeLATEX; by several CJK engines, classes, and packages; or by customized systems such as perltex and pythontex. A *texlua* script automates compilation, index, glossary, and batch image processing, and also supports *latexmk*. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with MiKTEX) and PERL. Detailed installation instructions are included for each of the major operating systems and TEX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include LATEX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of **lwarp**.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include memoir and koma-script, cleveref, caption, mdframed, siunitx, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

TEX is a self-modifying tokenized macro-expansion language. Since **lwarp** is written directly in LATEX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate TEX. HTML5 and CSS3 are leveraged to provide advanced features such as booktabs trim, multicolumns, side-by-side minipages, and JAVASCRIPT-free navigation.

For a quick-start tutorial, see section 5, Tutorial.

For a list of supported features, see table 2: Supported packages and features.

To update existing projects, see section 1: Updates.

Lwarp is still in development. Changes are likely.

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Contents

| | |
|---|----|
| Support T<small>EX</small> development | 2 |
| List of Figures | 45 |
| List of Tables | 45 |
| 1 Updates | 46 |
| 2 Introduction | 67 |
| 2.1 Typesetting conventions | 69 |
| 2.2 Supported packages and features | 70 |
| 3 Alternatives | 77 |
| 3.1 internet class | 77 |
| 3.2 TEX4HT | 77 |
| 3.3 Translators | 77 |
| 3.4 ASCIIDOC and ASCIIDOCTOR | 78 |
| 3.4.1 ASCIIDOCTOR-L <small>ATE</small> X | 78 |
| 3.5 PANDOC | 78 |
| 3.6 Word processors | 78 |
| 3.7 Commercial systems | 78 |
| 3.8 Comparisons | 78 |
| 4 Installation | 80 |
| 4.1 Installing the <i>lwarf</i> package | 82 |
| 4.2 Installing the <i>lwarpmk</i> utility | 83 |
| 4.2.1 Using a local copy of <i>lwarpmk</i> | 85 |
| 4.3 Installing additional utilities | 85 |
| 5 Tutorial | 87 |
| 5.1 Starting a new project | 87 |
| 5.2 Compiling the print version with <i>lwarpmk</i> | 91 |
| 5.3 Compiling the HTML version with <i>lwarpmk</i> | 92 |
| 5.4 Generating the SVG images | 93 |

| | | |
|--------|---|-----|
| 5.5 | Using MATHJAX for math | 94 |
| 5.6 | Changing the css style | 95 |
| 5.7 | Customizing the HTML output | 95 |
| 5.8 | Using <i>latexmk</i> | 96 |
| 5.9 | Using X _E LATEX or L _A U _L A _T E _X | 97 |
| 5.10 | Using DVI LATEX | 97 |
| 5.11 | Using a glossary | 98 |
| 5.11.1 | gloss package | 98 |
| 5.11.2 | glossaries package | 98 |
| 5.12 | Cleaning auxiliary files | 99 |
| 5.13 | Cleaning auxiliary and output files | 99 |
| 5.14 | Cleaning the images from the <project>-images directory | 99 |
| 5.15 | Converting PDF or EPS images to svg | 99 |
| 5.16 | Creating HTML from an incomplete compile | 99 |
| 5.17 | Processing multiple projects in the same directory | 99 |
| 5.18 | Using the <i>make</i> utility | 100 |
| 5.19 | What next? | 101 |
| 6 | Converting an existing document | 102 |
| 7 | Additional details | 103 |
| 7.1 | Localization | 103 |
| 7.2 | Accessibility | 103 |
| 7.3 | Shell escape | 104 |
| 7.4 | Font and UTF-8 support | 104 |
| 7.4.1 | Indexes, glossaries, and encoding | 107 |
| 7.5 | lwarp package loading and options | 108 |
| 7.6 | Customizing the HTML output | 114 |
| 7.6.1 | Example HTML file naming | 120 |
| 7.7 | Customizing the css | 121 |
| 7.8 | Assigning css classes and styles | 122 |

| | | |
|----------|---|------------|
| 7.9 | Selecting the operating system | 122 |
| 7.10 | Selecting actions for print, HTML, or MATHJAX output | 123 |
| 7.11 | Commands to be placed into the <code>\warpprint</code> environment | 124 |
| 7.12 | Title page | 124 |
| 7.13 | HTML page meta descriptions | 125 |
| 7.14 | HTML homepage meta title | 126 |
| 7.15 | HTML page meta author | 126 |
| 8 | Special cases and limitations | 127 |
| 8.1 | Things to avoid | 127 |
| 8.1.1 | Invalid HTML | 128 |
| 8.2 | Formatting | 128 |
| 8.2.1 | Text formatting | 128 |
| 8.2.2 | Small caps | 128 |
| 8.2.3 | Horizontal and vertical space and rules | 128 |
| 8.2.4 | Text alignment | 129 |
| 8.2.5 | Accents. | 129 |
| 8.2.6 | <code>textcomp</code> package | 129 |
| 8.2.7 | Superscripts and other non-math uses of math mode | 129 |
| 8.2.8 | Empty <code>\item</code> followed by a new line of text or a nested list: | 129 |
| 8.2.9 | Filenames and URLs in lists or footnotes | 130 |
| 8.2.10 | <code>relsize</code> package | 130 |
| 8.3 | Boxes and minipages | 130 |
| 8.3.1 | <code>Marginpars</code> | 130 |
| 8.3.2 | <code>Save Boxes</code> | 130 |
| 8.3.3 | <code>Minipages</code> | 130 |
| 8.3.4 | Side-by-side minipages | 131 |
| 8.3.5 | Framed minipages and other environments | 131 |
| 8.3.6 | <code>fancybox</code> package | 133 |
| 8.3.7 | <code>mdframed</code> package | 134 |

| | | |
|--------|--|-----|
| 8.3.8 | tcolorbox package | 134 |
| 8.4 | Section names | 135 |
| 8.5 | Cross-references | 136 |
| 8.5.1 | Page references | 136 |
| 8.5.2 | cleveref and varioref packages | 136 |
| 8.5.3 | Hyperlinks, hyperref, and url | 137 |
| 8.5.4 | Footnotes, endnotes, and page notes | 137 |
| 8.5.5 | xr, xr-hyper, and xcite packages | 139 |
| 8.6 | Front and back matter | 139 |
| 8.6.1 | Custom classes with multiple authors and affiliations | 139 |
| 8.6.2 | Starred chapters and sections | 139 |
| 8.6.3 | abstract package | 140 |
| 8.6.4 | titling and authblk | 140 |
| 8.6.5 | tocloft package | 140 |
| 8.6.6 | appendix package | 140 |
| 8.6.7 | pagenote package | 140 |
| 8.6.8 | endnotes package | 140 |
| 8.6.9 | BibTeX | 141 |
| 8.6.10 | xcite package | 141 |
| 8.6.11 | gloss package | 141 |
| 8.6.12 | glossaries package | 142 |
| 8.6.13 | nomencn package | 143 |
| 8.6.14 | Indexing overview | 143 |
| 8.6.15 | Indexing with makeidx, makeindex, xindy, xindex, gindex | 143 |
| 8.6.16 | Indexing with index | 145 |
| 8.6.17 | Indexing with splitidx | 146 |
| 8.6.18 | Indexing with imakeidx | 148 |
| 8.6.19 | Indexes with memoir | 151 |
| 8.6.20 | Using a custom <i>makeindex</i> style file | 154 |

| | | |
|--------|--|-----|
| 8.6.21 | Using a custom <i>xindy</i> style file | 155 |
| 8.6.22 | Using a custom <i>xindex</i> style file | 156 |
| 8.6.23 | Additional indexing limitations | 156 |
| 8.6.24 | Index positions, toc, tocbibind | 157 |
| 8.7 | Math | 158 |
| 8.7.1 | Math in section names | 158 |
| 8.7.2 | Rendering tradeoffs | 158 |
| 8.7.3 | SVG option | 159 |
| 8.7.4 | MATHJAX option | 159 |
| 8.7.5 | Customizing MATHJAX | 160 |
| 8.7.6 | MATHJAX limitations | 161 |
| 8.7.7 | Catcode changes | 162 |
| 8.7.8 | Complicated inline math objects | 163 |
| 8.7.9 | Complicated display math objects | 163 |
| 8.7.10 | Theorems | 163 |
| 8.7.11 | ntheorem package | 164 |
| 8.7.12 | mathtools package | 164 |
| 8.7.13 | siunitx package | 164 |
| 8.7.14 | units and nicefrac packages | 165 |
| 8.7.15 | physics package | 165 |
| 8.8 | Graphics | 165 |
| 8.8.1 | tikz package | 168 |
| 8.8.2 | grffile package | 168 |
| 8.8.3 | color package | 168 |
| 8.8.4 | xcolor package | 168 |
| 8.8.5 | epstopdf package | 169 |
| 8.8.6 | pstricks package | 169 |
| 8.8.7 | pdftricks package | 169 |
| 8.8.8 | psfrag package | 169 |

| | | |
|--------|---|-----|
| 8.8.9 | pstool package | 169 |
| 8.8.10 | asympote package | 170 |
| 8.8.11 | overpic package | 170 |
| 8.8.12 | Multimedia packages | 170 |
| 8.9 | Tabbing | 171 |
| 8.10 | Tabular | 171 |
| 8.10.1 | tabular environment | 171 |
| 8.10.2 | multirow package | 174 |
| 8.10.3 | longtable package | 174 |
| 8.10.4 | threeparttablex package | 175 |
| 8.10.5 | supertabular and xtab packages | 176 |
| 8.10.6 | colortbl package | 176 |
| 8.10.7 | ctable package | 176 |
| 8.10.8 | bigdelim package | 176 |
| 8.11 | Floats | 177 |
| 8.11.1 | Float contents alignment | 177 |
| 8.11.2 | float, trivfloat, and/or algorithmicx together | 177 |
| 8.11.3 | caption and subcaption packages | 177 |
| 8.11.4 | subfig package | 178 |
| 8.11.5 | floatrow package | 178 |
| 8.11.6 | keyfloat package | 178 |
| 8.12 | KOMA-SCRIPT classes | 178 |
| 8.13 | MEMOIR class | 179 |
| 8.14 | International languages | 180 |
| 8.15 | Miscellaneous packages | 181 |
| 8.15.1 | verse and memoir | 181 |
| 8.15.2 | newclude package | 181 |
| 8.15.3 | babel package | 181 |
| 8.15.4 | polyglossia package | 182 |

| | | |
|-----------|---|------------|
| 8.15.5 | todo notes and luatodo notes packages | 182 |
| 8.15.6 | fixme | 182 |
| 8.15.7 | acro package | 183 |
| 8.15.8 | chemfig package | 183 |
| 8.15.9 | chemformula package | 183 |
| 8.15.10 | mhchem package | 183 |
| 8.15.11 | kotex package | 183 |
| 9 | Compiling using custom shell commands | 184 |
| 9.1 | Command options | 184 |
| 9.2 | Literal character macros | 184 |
| 9.3 | <i>latexmk</i> | 185 |
| 9.4 | perltex package | 186 |
| 9.5 | pythontex package | 186 |
| 9.6 | sympytex package | 186 |
| 9.7 | Other packages | 187 |
| 9.8 | make program | 187 |
| 9.9 | UTF-8 locale | 187 |
| 10 | EPUB conversion | 189 |
| 11 | Word-processor conversion | 191 |
| 11.1 | Activating word-processor conversion | 191 |
| 11.2 | Additional modifications | 192 |
| 11.3 | Recommendations | 194 |
| 11.4 | Limitations | 195 |
| 12 | Modifying l warp | 196 |
| 12.1 | Creating a development system | 196 |
| 12.2 | Modifying a package for l warp | 198 |
| 12.2.1 | Adding a package to the l warp.dtx file | 199 |
| 12.3 | Modifying a class for l warp | 199 |
| 12.4 | Testing l warp | 199 |

| | | |
|-----------|--|------------|
| 12.5 | Modifying <i>lwarpmk</i> | 200 |
| 13 | Troubleshooting | 201 |
| 13.1 | l warp package error conditions and warnings | 201 |
| 13.1.1 | Configuration file <i>lwarpmk.conf</i> | 201 |
| 13.1.2 | Image generation with <i>lwarpmk limages</i> | 201 |
| 13.1.3 | Default bitmapped font | 202 |
| 13.1.4 | Packages | 202 |
| 13.1.5 | Compiling | 202 |
| 13.2 | Using the l warp package | 203 |
| 13.2.1 | Debug tracing output | 207 |
| 13.3 | Compiling the <i>l warp.dtx</i> file | 207 |
| 14 | Trademarks | 209 |
| 1 | l warp.sty | 210 |
| 15 | Implementation. | 210 |
| 16 | Section depths and HTML headings. | 211 |
| 17 | Source code | 212 |
| 18 | Detecting the T E X engine — <i>pdflatex</i>, <i>lualatex</i>, <i>xelatex</i> | 213 |
| 19 | Early package requirements | 213 |
| 20 | Package load order | 213 |
| 20.1 | Tests of package load order | 214 |
| 20.2 | Error for disallowed packages and classes loaded before l warp | 217 |
| 20.3 | Enforcing package loading after l warp | 220 |
| 21 | MD5 hashing. | 230 |
| 22 | PDF L A T E X T1 and UTF-8 encoding | 231 |
| 23 | Unicode input characters | 231 |
| 24 | Avoid a bitmapped font | 232 |
| 25 | Upright quotes | 233 |
| 26 | Avoid bad font combinations | 233 |

| | | |
|-----------|--|------------|
| 27 | Miscellaneous tools | 233 |
| 27.1 | Variables | 233 |
| 27.2 | Lengths and units | 234 |
| 27.3 | Counters | 234 |
| 27.4 | Patching | 234 |
| 27.5 | Chinese text isolation | 235 |
| 27.6 | Inserting vertical space | 235 |
| 27.7 | Argument selection | 235 |
| 27.8 | Inside boxes | 236 |
| 27.9 | Global boxes | 236 |
| 27.10 | Converting a macro name to a cs name | 237 |
| 27.11 | Title case | 237 |
| 27.12 | LetLtxMacros | 237 |
| 27.13 | Absorbing a star | 238 |
| 28 | Operating-System portability | 238 |
| 28.1 | Literal characters | 238 |
| 28.2 | Common portability code | 239 |
| 28.3 | UNIX, LINUX, and MAC OS | 240 |
| 28.4 | MS-WINDOWS | 240 |
| 29 | Package options | 240 |
| 29.1 | Additional options support | 245 |
| 29.2 | Conditional compilation | 247 |
| 30 | Required packages | 249 |
| 31 | Loading packages | 255 |
| 32 | File handles | 261 |
| 33 | Include a file | 262 |
| 34 | Copying a file | 263 |
| 35 | Debugging messages | 264 |
| 36 | Defining print and HTML versions of macros and environments | 265 |

| | | |
|-----------|--|------------|
| 37 | HTML-conversion output modifications | 270 |
| 37.1 | User-level controls | 270 |
| 37.2 | Heading adjustments | 272 |
| 38 | Remembering original formatting macros | 273 |
| 39 | Accents | 275 |
| 40 | Configuration files | 277 |
| 40.1 | Decide whether to generate configuration files | 277 |
| 40.2 | <project>.html.tex | 278 |
| 40.3 | <i>l warpmk</i> configuration files | 278 |
| 40.3.1 | Helper macros | 278 |
| 40.3.2 | <i>l warpmk.conf</i> | 284 |
| 40.3.3 | <project>.l warpmkconf | 284 |
| 40.4 | <i>l warp.css</i> | 284 |
| 40.5 | <i>l warp_sagebrush.css</i> | 317 |
| 40.6 | <i>l warp_formal.css</i> | 322 |
| 40.7 | <i>sample_project.css</i> | 326 |
| 40.8 | <i>l warp.ist</i> | 326 |
| 40.9 | <i>l warp.xdy</i> | 327 |
| 40.10 | <i>l warp_one_limage.cmd</i> | 327 |
| 40.11 | <i>l warp_mathjax.txt</i> | 328 |
| 40.12 | <i>l warpmk.lua</i> — <i>l warpmk</i> option | 332 |
| 41 | Stacks | 350 |
| 41.1 | Assigning depths | 351 |
| 41.2 | Closing actions | 351 |
| 41.3 | Closing depths | 352 |
| 41.4 | Pushing and popping the stack | 353 |
| 42 | Data arrays | 354 |
| 43 | Localizing catcodes | 355 |
| 44 | Localizing dynamic math | 356 |

| | | |
|-----------|---|-----|
| 45 | HTML entities | 357 |
| 46 | HTML filename generation | 358 |
| 47 | Homepage link | 361 |
| 48 | Previous/next navigation links | 362 |
| 49 | \LWRPrintStack diagnostic tool | 364 |
| 50 | Closing stack levels | 364 |
| 51 | PDF pages and styles | 365 |
| 52 | HTML tags, spans, divs, elements | 366 |
| 52.1 | Mapping L ^A T _E X sections to HTML sections | 367 |
| 52.2 | Hook while processing tags | 367 |
| 52.3 | Babel-French tag modifications | 367 |
| 52.4 | HTML output formatting | 368 |
| 52.5 | HTML tags | 369 |
| 52.6 | Block tags and comments | 371 |
| 52.7 | Div class and element class | 373 |
| 52.8 | Single-line elements | 374 |
| 52.9 | HTML5 semantic elements | 374 |
| 52.10 | High-level block and inline classes | 375 |
| 52.11 | Closing HTML tags | 377 |
| 53 | Paragraph handling | 377 |
| 54 | Paragraph start/stop handling | 381 |
| 55 | Indentfirst | 384 |
| 56 | Page headers and footers | 384 |
| 57 | css | 385 |
| 58 | MATHJAX script | 385 |
| 59 | Title, HTML meta author, HTML meta description | 386 |
| 60 | Footnotes | 387 |
| 60.1 | Regular page footnotes | 388 |
| 60.2 | Minipage footnotes | 388 |

| | | |
|-----------|---|------------|
| 60.3 | Titlepage thanks | 388 |
| 60.4 | Regular page footnote implementation | 388 |
| 60.5 | Minipage footnote implementation | 391 |
| 60.6 | Printing pending footnotes | 392 |
| 61 | Marginpars | 393 |
| 62 | Tracking internal cross references | 395 |
| 63 | Splitting HTML files | 396 |
| 63.1 | Sanitizing expressions for HTML | 401 |
| 63.2 | Customizing MATHJAX | 404 |
| 64 | Sectioning | 412 |
| 64.1 | User-level starred section commands | 412 |
| 64.2 | Book class commands | 413 |
| 64.3 | Sectioning support macros | 413 |
| 64.4 | Pre- and post- sectioning names | 421 |
| 64.5 | \section and friends | 422 |
| 65 | Starting a new file | 423 |
| 66 | Starting HTML output | 427 |
| 67 | Ending HTML output | 431 |
| 68 | Nullifying foreground/background hooks | 433 |
| 69 | Title page | 433 |
| 69.1 | Setting the title, etc. | 434 |
| 69.2 | \if@titlepage | 435 |
| 69.3 | Changes for \affiliation | 435 |
| 69.4 | Printing the thanks | 436 |
| 69.5 | Printing the title, etc. in HTML | 436 |
| 69.6 | Printing the title, etc. in print form | 438 |
| 69.7 | \maketitle for HTML output | 438 |
| 69.8 | \published and \subtitle | 441 |
| 70 | Abstract | 442 |

| | | |
|-----------|--|------------|
| 75.10 | Parsing common column types | 476 |
| 75.11 | Parsing ‘w’ columns | 477 |
| 75.12 | Parsing ‘*’ columns | 477 |
| 75.13 | Expanding the star column specifications | 477 |
| 75.14 | Parsing the column specifications | 477 |
| 75.15 | colortbl and xcolor tabular color support. | 484 |
| 75.16 | Starting a new row | 486 |
| 75.17 | Printing vertical bar tags | 486 |
| 75.18 | Printing @ or ! tags | 487 |
| 75.19 | Cell opening tag | 488 |
| 75.20 | Midrules | 490 |
| 75.21 | Cell colors | 495 |
| 75.22 | Multicolumns | 499 |
| 75.22.1 | Parsing multicolumns | 499 |
| 75.22.2 | Multicolumn factored code. | 502 |
| 75.22.3 | Multicolumn | 505 |
| 75.22.4 | Longtable captions | 506 |
| 75.22.5 | Counting HTML tabular columns | 508 |
| 75.23 | Multirow if not loaded | 510 |
| 75.24 | Multicolumnrow | 510 |
| 75.25 | Utility macros inside a table | 511 |
| 75.26 | Special-case tabular markers | 512 |
| 75.27 | Checking for a new table cell | 513 |
| 75.28 | \mrowcell | 515 |
| 75.29 | \mcolrowcell | 516 |
| 75.30 | HTML tabular environment | 516 |
| 76 | Cross-references | 523 |
| 76.1 | Setup | 523 |
| 76.2 | New l warp labels. | 525 |

| | | |
|-----------|---|------------|
| 76.3 | Labels | 526 |
| 76.4 | References | 529 |
| 76.5 | Hyper-references | 532 |
| 77 | Floats | 536 |
| 77.1 | Float environment | 536 |
| 77.2 | Float tracking | 539 |
| 77.3 | Caption inside a float environment | 540 |
| 77.4 | Caption and LOF linking and tracking | 541 |
| 78 | Table of Contents, LOF, LOT | 545 |
| 78.1 | Reading and printing the TOC | 545 |
| 78.2 | TOC commands | 548 |
| 78.3 | Side TOC | 548 |
| 78.4 | Low-level toc line formatting | 550 |
| 79 | Index and glossary | 553 |
| 80 | Bibliography presentation | 561 |
| 81 | Restoring original formatting | 562 |
| 82 | Nullifying filename formatting | 564 |
| 83 | Math | 568 |
| 83.1 | Limitations | 568 |
| 83.2 | HTML alt tag names | 568 |
| 83.3 | Inline and display math | 569 |
| 83.4 | MATHJAX support | 583 |
| 83.5 | Equation environment | 586 |
| 83.6 | \displaymathnormal and \displaymathother | 589 |
| 83.7 | AMS Math environments | 591 |
| 83.7.1 | Support macros | 591 |
| 83.7.2 | Environment patches | 591 |
| 84 | Lateximages | 594 |
| 84.1 | Description | 594 |

| | | |
|------|---|-----|
| 84.2 | Support counters and macros | 595 |
| 84.3 | Font size | 596 |
| 84.4 | Equation numbers | 596 |
| 84.5 | HTML alt tags | 597 |
| 84.6 | lateximage environment | 598 |
| 85 | center, flushleft, flushright | 604 |
| 86 | Preloaded packages | 606 |
| 87 | siunitx | 608 |
| 88 | Graphics print-mode modifications | 609 |
| 88.1 | General limitations | 609 |
| 88.2 | Print-mode modifications | 611 |
| 89 | xcolor boxes | 612 |
| 90 | chemmacros environments | 615 |
| 91 | cleveref | 616 |
| 92 | Preexisting label and reference definitions | 616 |
| 93 | picture environment | 616 |
| 94 | Minipages and Boxes | 617 |
| 94.1 | Computed lengths | 618 |
| 94.2 | Virtual page size | 618 |
| 94.3 | Footnote handling | 618 |
| 94.4 | Minipage handling | 619 |
| 94.5 | \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox | 623 |
| 95 | Direct formatting | 628 |
| 96 | Skips, spaces, font sizes | 639 |
| 97 | \phantomsection | 647 |
| 98 | \LaTeX and other logos | 647 |
| 99 | Starting and stopping l warp | 651 |
| 100 | Loading array | 651 |
| 101 | Loading everyshi patches | 652 |

| | | |
|-----|---|-----|
| 102 | Loading textcomp patches | 652 |
| 103 | Loading amsmath, amsthm patches, centernot | 652 |
| 104 | Loading KOMA-SCRIPT class patches | 652 |
| 105 | Loading MEMOIR class patches | 653 |
| 106 | ut* class patches | 653 |
| 107 | CTEX patches. | 654 |
| 108 | kotexutf patches. | 655 |
| 109 | babel and polyglossia warnings | 656 |
| 110 | MATHJAX warnings | 657 |
| 2 | l warp-2in1.sty | 660 |
| 3 | l warp-2up.sty | 660 |
| 4 | l warp-a4.sty | 660 |
| 5 | l warp-a4wide.sty | 661 |
| 6 | l warp-a5comb.sty | 661 |
| 7 | l warp-abstract.sty | 661 |
| 8 | l warp-academicons.sty | 663 |
| 9 | l warp-accents.sty | 664 |
| 10 | l warp-accessibility.sty | 665 |
| 11 | l warp-accsupp.sty | 666 |
| 12 | l warp-acro.sty | 666 |
| 13 | l warp-acronym.sty | 669 |
| 14 | l warp-adjmulticol.sty | 670 |
| 15 | l warp-addlines.sty | 671 |
| 16 | l warp-afterpage.sty | 671 |
| 17 | l warp-algorithm2e.sty | 671 |
| 18 | l warp-algorithmicx.sty | 675 |
| 19 | l warp-alltt.sty | 676 |

| | | |
|----|---------------------------------|-----|
| 20 | l warp-amscdx.sty | 677 |
| 21 | l warp-amsmath.sty | 677 |
| 22 | l warp-amsthm.sty | 681 |
| 23 | l warp-anonchap.sty | 686 |
| 24 | l warp-any size.sty | 687 |
| 25 | l warp-appendix.sty | 687 |
| 26 | l warp-ar.sty | 688 |
| 27 | l warp-arabicfront.sty | 689 |
| 28 | l warp-array.sty | 689 |
| 29 | l warp-arydshln.sty | 690 |
| 30 | l warp-asymptote.sty | 692 |
| 31 | l warp-atbegshi.sty | 693 |
| 32 | l warp-attachfile.sty | 694 |
| 33 | l warp-attachfile2.sty | 695 |
| 34 | l warp-authblk.sty | 697 |
| 35 | l warp-autobreak.sty | 698 |
| 36 | l warp-autonum.sty | 699 |
| 37 | l warp-awesomebox.sty | 700 |
| 38 | l warp-axessibility.sty | 701 |
| 39 | l warp-axodraw2.sty | 702 |
| 40 | l warp-backnaur.sty | 702 |
| 41 | l warp-backref.sty | 703 |
| 42 | l warp-balance.sty | 703 |
| 43 | l warp-bbding.sty | 704 |
| 44 | l warp-beamerarticle.sty | 708 |
| 45 | l warp-bib latex.sty | 711 |
| 46 | l warp-bibunits.sty | 715 |

| | | |
|----|-----------------------------------|-----|
| 47 | l warp-bigdelim.sty | 715 |
| 48 | l warp-bigfoot.sty | 717 |
| 49 | l warp-bigstrut.sty | 717 |
| 50 | l warp-bitpattern.sty | 718 |
| 51 | l warp-blowup.sty | 718 |
| 52 | l warp-bm.sty | 718 |
| 53 | l warp-booklet.sty | 719 |
| 54 | l warp-bookmark.sty | 719 |
| 55 | l warp-booktabs.sty | 720 |
| 56 | l warp-bophook.sty | 722 |
| 57 | l warp-bounddvi.sty | 722 |
| 58 | l warp-boxedminipage.sty | 722 |
| 59 | l warp-boxedminipage2e.sty | 723 |
| 60 | l warp-braket.sty | 723 |
| 61 | l warp-breakurl.sty | 723 |
| 62 | l warp-breqn.sty | 724 |
| 63 | l warp-bsheaders.sty | 726 |
| 64 | l warp-bussproofs.sty | 726 |
| 65 | l warp-bxpapersize.sty | 726 |
| 66 | l warp-bytefield.sty | 727 |
| 67 | l warp-cancel.sty | 727 |
| 68 | l warp-canoniclayout.sty | 728 |
| 69 | l warp-caption.sty | 728 |
| 70 | l warp-caption3.sty | 730 |
| 71 | l warp-cases.sty | 733 |
| 72 | l warp-ccicons.sty | 733 |
| 73 | l warp-centerlastline.sty | 734 |

| | | |
|--------|--------------------------------|-----|
| 74 | l warp-centernot.sty | 734 |
| 75 | l warp-changebar.sty | 734 |
| 76 | l warp-changelayout.sty | 735 |
| 77 | l warp-changepage.sty | 736 |
| 78 | l warp-changes.sty | 736 |
| 79 | l warp-chappg.sty | 741 |
| 80 | l warp-chapterbib.sty | 742 |
| 81 | l warp-chemfig.sty | 742 |
| 82 | l warp-chemformula.sty | 744 |
| 83 | l warp-chemgreek.sty | 749 |
| 84 | l warp-chemmacros.sty | 750 |
| 193 | chemmacros | 750 |
| 193.1 | Changes to the user's document | 750 |
| 193.2 | Code | 750 |
| 193.3 | Loading modules | 750 |
| 193.4 | New environments | 751 |
| 193.5 | Acid-base | 751 |
| 193.6 | Charges | 753 |
| 193.7 | Nomenclature | 753 |
| 193.8 | Particles | 755 |
| 193.9 | Phases. | 756 |
| 193.10 | Mechanisms | 757 |
| 193.11 | Newman | 759 |
| 193.12 | Orbital | 759 |
| 193.13 | Reactions | 760 |
| 193.14 | Redox | 760 |
| 193.15 | Scheme | 761 |
| 193.16 | Spectroscopy | 762 |

| | |
|--|------------|
| 193.17 Thermodynamics | 766 |
| 85 l warp-chemnum.sty | 768 |
| 86 l warp-chkfloat.sty | 769 |
| 87 l warp-chngpage.sty | 769 |
| 88 l warp-cite.sty | 769 |
| 89 l warp-citeref.sty | 770 |
| 90 l warp-CJK.sty | 770 |
| 91 l warp-CJKutf8.sty | 770 |
| 92 l warp-classicthesis.sty | 771 |
| 93 l warp-cleveref.sty | 771 |
| 94 l warp-clrdblpg.sty | 775 |
| 95 l warp-cmbright.sty | 775 |
| 96 l warp-cmdtrack.sty | 776 |
| 97 l warp-colonequals.sty | 776 |
| 98 l warp-color.sty | 777 |
| 99 l warp-colortbl.sty | 777 |
| 100 l warp-continue.sty | 779 |
| 101 l warp-copyrightbox.sty | 779 |
| 102 l warp-crop.sty | 780 |
| 103 l warp-ctable.sty | 780 |
| 104 l warp-cuted.sty | 783 |
| 105 l warp-cutwin.sty | 783 |
| 106 l warp-dblfloatfix.sty | 784 |
| 107 l warp-dblfnote.sty | 784 |
| 108 l warp-dcolumn.sty | 785 |
| 109 l warp-decimal.sty | 785 |
| 110 l warp-decorule.sty | 785 |

| | | |
|-----|----------------------------------|-----|
| 111 | l warp-diagbox.sty | 786 |
| 112 | l warp-dingbat.sty | 788 |
| 113 | l warp-DotArrow.sty | 789 |
| 114 | l warp-dotlessi.sty | 789 |
| 115 | l warp-dprogress.sty | 789 |
| 116 | l warp-draftcopy.sty | 790 |
| 117 | l warp-draftfigure.sty | 790 |
| 118 | l warp-draftwatermark.sty | 790 |
| 119 | l warp-drftcite.sty | 791 |
| 120 | l warp-easy-todo.sty | 791 |
| 121 | l warp-ebook.sty | 792 |
| 122 | l warp-econometrics.sty | 793 |
| 123 | l warp-ed.sty | 795 |
| 124 | l warp-ellipsis.sty | 796 |
| 125 | l warp-embrac.sty | 796 |
| 126 | l warp-emptypage.sty | 797 |
| 127 | l warp-endfloat.sty | 797 |
| 128 | l warp-endheads.sty | 798 |
| 129 | l warp-endnotes.sty | 799 |
| 130 | l warp-engtlc.sty | 800 |
| 131 | l warp-enotez.sty | 804 |
| 132 | l warp-enumerate.sty | 806 |
| 133 | l warp-enumitem.sty | 807 |
| 134 | l warp-epigraph.sty | 807 |
| 135 | l warp-epsf.sty | 808 |
| 136 | l warp-epsfig.sty | 809 |
| 137 | l warp-epstopdf.sty | 809 |

| | | |
|-----|-----------------------------------|-----|
| 138 | l warp-epstopdf-base.sty | 810 |
| 139 | l warp-eqlist.sty | 811 |
| 140 | l warp-eqparbox.sty | 811 |
| 141 | l warp-errata.sty | 812 |
| 142 | l warp-eso-pic.sty | 813 |
| 143 | l warp-esvect.sty | 814 |
| 144 | l warp-etoc.sty | 814 |
| 145 | l warp-eurosym.sty | 817 |
| 146 | l warp-everypage.sty | 817 |
| 147 | l warp-everyshi.sty | 817 |
| 148 | l warp-extarrows.sty | 818 |
| 149 | l warp-extramarks.sty | 818 |
| 150 | l warp-fancybox.sty | 819 |
| 151 | l warp-fancyhdr.sty | 824 |
| 152 | l warp-fancypar.sty | 825 |
| 153 | l warp-fancyref.sty | 826 |
| 154 | l warp-fancytabs.sty | 827 |
| 155 | l warp-fancyvrb.sty | 827 |
| 156 | l warp-fbox.sty | 834 |
| 157 | l warp-fewerfloatpages.sty | 837 |
| 158 | l warp-figcaps.sty | 837 |
| 159 | l warp-figsize.sty | 837 |
| 160 | l warp-fitbox.sty | 838 |
| 161 | l warp-fix2col.sty | 838 |
| 162 | l warp-fixmath.sty | 838 |
| 163 | l warp-fixme.sty | 839 |
| 164 | l warp-fixmetodonotes.sty | 840 |

| | | |
|-----|-----------------------------------|-----|
| 165 | l warp-flafter.sty | 841 |
| 166 | l warp-flippdf.sty | 841 |
| 167 | l warp-float.sty | 841 |
| 168 | l warp-floatflt.sty | 843 |
| 169 | l warp-floatpag.sty | 844 |
| 170 | l warp-floatrow.sty | 844 |
| 171 | l warp-fltrace.sty | 849 |
| 172 | l warp-flushend.sty | 850 |
| 173 | l warp-fnbreak.sty | 850 |
| 174 | l warp-fncychap.sty | 850 |
| 175 | l warp-fnlineno.sty | 851 |
| 176 | l warp-fnpara.sty | 851 |
| 177 | l warp-fnpos.sty | 851 |
| 178 | l warp-fontawesome.sty | 852 |
| 179 | l warp-fontawesome5.sty | 853 |
| 180 | l warp-fontaxes.sty | 854 |
| 181 | l warp-fontenc.sty | 854 |
| 182 | l warp-footmisc.sty | 855 |
| 183 | l warp-footnote.sty | 856 |
| 184 | l warp-footnotebackref.sty | 858 |
| 185 | l warp-footnotehyper.sty | 858 |
| 186 | l warp-footnoterange.sty | 858 |
| 187 | l warp-footnpag.sty | 858 |
| 188 | l warp-foreign.sty | 859 |
| 189 | l warp-forest.sty | 859 |
| 190 | l warp-fouridx.sty | 860 |
| 191 | l warp-fourier.sty | 860 |

| | | |
|------------|---|-----|
| 192 | l warp-framed.sty | 862 |
| 193 | l warp-froufrou.sty | 864 |
| 194 | l warp-ftcap.sty | 865 |
| 195 | l warp-ftnright.sty | 865 |
| 196 | l warp-fullminipage.sty | 865 |
| 197 | l warp-fullpage.sty | 865 |
| 198 | l warp-fullwidth.sty | 866 |
| 199 | l warp-fvextra.sty | 866 |
| 200 | l warp-fwlw.sty | 869 |
| 201 | l warp-gensymb.sty | 870 |
| 202 | l warp-gentombow.sty | 870 |
| 203 | l warp-geometry.sty | 870 |
| 204 | l warp-ghsystem.sty | 871 |
| 205 | l warp-gindex.sty | 872 |
| 206 | l warp-gloss.sty | 873 |
| 207 | l warp-glossaries.sty | 873 |
| 208 | l warp-gmeometric.sty | 875 |
| 209 | l warp-graphics.sty | 876 |
| 318 | graphics | 876 |
| 318.1 | Graphics extensions | 876 |
| 318.2 | Length conversions and graphics options | 877 |
| 318.3 | Printing HTML styles | 880 |
| 318.4 | \includegraphics | 880 |
| 318.5 | Boxes | 886 |
| 210 | l warp-graphicx.sty | 889 |
| 211 | l warp-grfile.sty | 889 |
| 212 | l warp-grid.sty | 889 |

| | | |
|-----|--------------------------------|-----|
| 213 | l warp-grid-system.sty | 890 |
| 214 | l warp-gridset.sty | 890 |
| 215 | l warp-hang.sty | 890 |
| 216 | l warp-hanging.sty | 892 |
| 217 | l warp-hepunits.sty | 893 |
| 218 | l warp-hhline.sty | 894 |
| 219 | l warp-hhtensor.sty | 895 |
| 220 | l warp-hypbmsec.sty | 895 |
| 221 | l warp-hypcap.sty | 896 |
| 222 | l warp-hypdestopt.sty | 896 |
| 223 | l warp-hypernat.sty | 896 |
| 224 | l warp-hyperref.sty | 896 |
| 225 | l warp-hyperxmp.sty | 906 |
| 226 | l warp-hyphenat.sty | 907 |
| 227 | l warp-idxlayout.sty | 908 |
| 228 | l warp-ifoddpage.sty | 909 |
| 229 | l warp-imakeidx.sty | 909 |
| 230 | l warp-impnattypo.sty | 914 |
| 231 | l warp-index.sty | 914 |
| 232 | l warp-inputrc.sty | 915 |
| 233 | l warp-intopdf.sty | 916 |
| 234 | l warp-isomath.sty | 916 |
| 235 | l warp-isotope.sty | 917 |
| 236 | l warp-jurabib.sty | 918 |
| 237 | l warp-karnaugh-map.sty | 919 |
| 238 | l warp-keyfloat.sty | 922 |
| 239 | l warp-keystroke.sty | 928 |

| | | |
|-----|------------------------------------|-----|
| 240 | l warp-kpfonts.sty | 930 |
| 241 | l warp-kpfonts-otf.sty | 931 |
| 242 | l warp-layaureo.sty | 933 |
| 243 | l warp-layout.sty | 933 |
| 244 | l warp-layouts.sty | 933 |
| 245 | l warp-leading.sty | 936 |
| 246 | l warp-leftidx.sty | 936 |
| 247 | l warp-letterspace.sty | 936 |
| 248 | l warp-lettrine.sty | 937 |
| 249 | l warp-libertinust1math.sty | 938 |
| 250 | l warp-linenos.sty | 944 |
| 251 | l warp-lips.sty | 946 |
| 252 | l warp-lipsum.sty | 947 |
| 253 | l warp-listings.sty | 947 |
| 254 | l warp-listliketab.sty | 954 |
| 255 | l warp-lltjext.sty | 954 |
| 256 | l warp-lltjp-tascmac.sty | 955 |
| 257 | l warp-longtable.sty | 955 |
| 258 | l warp-lpic.sty | 958 |
| 259 | l warp-lscape.sty | 958 |
| 260 | l warp-ltablex.sty | 959 |
| 261 | l warp-ltcaption.sty | 959 |
| 262 | l warp-ltxgrid.sty | 960 |
| 263 | l warp-ltxtable.sty | 960 |
| 264 | l warp-lua-check-hyphen.sty | 960 |
| 265 | l warp-lua-visual-debug.sty | 961 |
| 266 | l warp-luacolor.sty | 961 |

| | | |
|-----|--------------------------------|-----|
| 267 | l warp-luamplib.sty | 961 |
| 268 | l warp-luatexko.sty | 961 |
| 269 | l warp-luatodonotes.sty | 964 |
| 270 | l warp-luavlna.sty | 966 |
| 271 | l warp-lyluatex.sty | 966 |
| 272 | l warp-magaz.sty | 968 |
| 273 | l warp-makeidx.sty | 969 |
| 274 | l warp-manyfoot.sty | 969 |
| 275 | l warp-marginal.sty | 971 |
| 276 | l warp-marginfit.sty | 971 |
| 277 | l warp-marginfix.sty | 972 |
| 278 | l warp-marginnote.sty | 972 |
| 279 | l warp-marvosym.sty | 973 |
| 280 | l warp-mathalpha.sty | 973 |
| 281 | l warp-mathastext.sty | 974 |
| 282 | l warp-mathcomp.sty | 975 |
| 283 | l warp-mathdesign.sty | 975 |
| 284 | l warp-mathdots.sty | 977 |
| 285 | l warp-mathfixs.sty | 977 |
| 286 | l warp-mathpazo.sty | 978 |
| 287 | l warp-mathptmx.sty | 978 |
| 288 | l warp-mathspec.sty | 979 |
| 289 | l warp-mathtools.sty | 981 |
| 290 | l warp-mattens.sty | 985 |
| 291 | l warp-maybemath.sty | 986 |
| 292 | l warp-mcaption.sty | 987 |

| | | |
|-----|----------------------------------|------|
| 310 | l warp-moreverb.sty | 1012 |
| 311 | l warp-movie15.sty | 1013 |
| 312 | l warp-mparhack.sty | 1014 |
| 313 | l warp-multibib.sty | 1015 |
| 314 | l warp-multicap.sty | 1015 |
| 315 | l warp-multicol.sty | 1015 |
| 316 | l warp-multicolrule.sty | 1017 |
| 317 | l warp-multimedia.sty | 1017 |
| 318 | l warp-multiobjective.sty | 1018 |
| 319 | l warp-multirow.sty | 1019 |
| 320 | l warp-multitoc.sty | 1023 |
| 321 | l warp-musicography.sty | 1023 |
| 322 | l warp-mwe.sty | 1026 |
| 323 | l warp-nameauth.sty | 1026 |
| 324 | l warp-nameref.sty | 1028 |
| 325 | l warp-natbib.sty | 1028 |
| 326 | l warp-nccfancyhdr.sty | 1029 |
| 327 | l warp-nccfoots.sty | 1030 |
| 328 | l warp-nccmath.sty | 1030 |
| 329 | l warp-needspace.sty | 1032 |
| 330 | l warp-newpxmath.sty | 1032 |
| 331 | l warp-newtxmath.sty | 1033 |
| 332 | l warp-newtxsf.sty | 1034 |
| 333 | l warp-nextpage.sty | 1035 |
| 334 | l warp-nfssext-cfr.sty | 1035 |
| 335 | l warp-nicefrac.sty | 1042 |
| 336 | l warp-niceframe.sty | 1042 |

| | | |
|--------|---------------------------------------|------|
| 337 | l warp-nicematrix.sty | 1043 |
| 338 | l warp-noitcrl.sty | 1046 |
| 339 | l warp-nolbreaks.sty | 1046 |
| 340 | l warp-nomencl.sty | 1046 |
| 341 | l warp-nonfloat.sty | 1047 |
| 342 | l warp-nonumonpart.sty | 1047 |
| 343 | l warp-nopageno.sty | 1047 |
| 344 | l warp-notes.sty | 1047 |
| 345 | l warp-notespages.sty | 1048 |
| 346 | l warp-nowidow.sty | 1048 |
| 347 | l warp-ntheorem.sty | 1049 |
| 456 | ntheorem | 1049 |
| 456.1 | Limitations | 1049 |
| 456.2 | Options | 1049 |
| 456.3 | Remembering the theorem style | 1050 |
| 456.4 | HTML cross-referencing | 1053 |
| 456.5 | \newtheoremstyle | 1054 |
| 456.6 | Standard styles | 1054 |
| 456.7 | Additional objects | 1055 |
| 456.8 | Renewed standard configuration | 1056 |
| 456.9 | amsthm option | 1057 |
| 456.10 | Ending a theorem | 1059 |
| 456.11 | \NoEndMark | 1060 |
| 456.12 | List-of | 1060 |
| 456.13 | Symbols | 1060 |
| 456.14 | Cross-referencing | 1061 |
| 348 | l warp-octave.sty | 1061 |
| 349 | l warp-orcidlink.sty | 1062 |

| | | |
|-----|------------------------------------|------|
| 350 | l warp-overpic.sty | 1063 |
| 351 | l warp-pagegrid.sty | 1063 |
| 352 | l warp-pagenote.sty | 1064 |
| 353 | l warp-pagesel.sty | 1064 |
| 354 | l warp-paralist.sty | 1064 |
| 355 | l warp-parallel.sty | 1065 |
| 356 | l warp-parcolumns.sty | 1067 |
| 357 | l warp-parnotes.sty | 1069 |
| 358 | l warp-parskip.sty | 1070 |
| 359 | l warp-pbalance.sty | 1070 |
| 360 | l warp-pbox.sty | 1071 |
| 361 | l warp-pdfcol.sty | 1071 |
| 362 | l warp-pdfcolfoot.sty | 1072 |
| 363 | l warp-pdfcolmk.sty | 1072 |
| 364 | l warp-pdfcolparallel.sty | 1072 |
| 365 | l warp-pdfcolparcolumns.sty | 1073 |
| 366 | l warp-pdfcomment.sty | 1073 |
| 367 | l warp-pdfcrypt.sty | 1074 |
| 368 | l warp-pdflandscape.sty | 1074 |
| 369 | l warp-pdfmarginpar.sty | 1074 |
| 370 | l warp-pdfpages.sty | 1075 |
| 371 | l warp-pdfprivacy.sty | 1077 |
| 372 | l warp-pdfrender.sty | 1077 |
| 373 | l warp-pdfsync.sty | 1078 |
| 374 | l warp-pdftricks.sty | 1078 |
| 375 | l warp-pdfx.sty | 1079 |
| 376 | l warp-perpage.sty | 1079 |

| | | |
|-----|---------------------------------|------|
| 377 | l warp-pfnote.sty | 1080 |
| 378 | l warp-phfqt.sty | 1080 |
| 379 | l warp-physics.sty | 1081 |
| 380 | l warp-physunits.sty | 1081 |
| 381 | l warp-picinpar.sty | 1083 |
| 382 | l warp-pifont.sty | 1085 |
| 383 | l warp-pinlabel.sty | 1085 |
| 384 | l warp-placeins.sty | 1086 |
| 385 | l warp-plarydshln.sty | 1086 |
| 386 | l warp-plext.sty | 1086 |
| 387 | l warp-plextarydshln.sty | 1087 |
| 388 | l warp-plextcolortbl.sty | 1087 |
| 389 | l warp-plimsoll.sty | 1088 |
| 390 | l warp-prelim2e.sty | 1088 |
| 391 | l warp-prettyref.sty | 1088 |
| 392 | l warp-preview.sty | 1089 |
| 393 | l warp-psfrag.sty | 1089 |
| 394 | l warp-psfragx.sty | 1090 |
| 395 | l warp-pst-eps.sty | 1090 |
| 396 | l warp-pstool.sty | 1090 |
| 397 | l warp-pstricks.sty | 1091 |
| 398 | l warp-pxatbegshi.sty | 1092 |
| 399 | l warp-pxeveryshi.sty | 1092 |
| 400 | l warp-pxfonts.sty | 1092 |
| 401 | l warp-pxftnright.sty | 1093 |
| 402 | l warp-pxjahyper.sty | 1093 |
| 403 | l warp-quotchap.sty | 1093 |

| | | |
|-----|---------------------------------------|------|
| 404 | l warp-quoting.sty | 1094 |
| 405 | l warp-ragged2e.sty | 1095 |
| 406 | l warp-realscripts.sty | 1095 |
| 407 | l warp-refcheck.sty | 1099 |
| 408 | l warp-register.sty | 1099 |
| 409 | l warp-relsize.sty | 1100 |
| 410 | l warp-repeatindex.sty | 1101 |
| 411 | l warp-repltext.sty | 1102 |
| 412 | l warp-resizegather.sty | 1102 |
| 413 | l warp-returntogram.sty | 1103 |
| 414 | l warp-rlepsf.sty | 1103 |
| 415 | l warp-rmathbr.sty | 1103 |
| 416 | l warp-rmpage.sty | 1104 |
| 417 | l warp-romanbar.sty | 1104 |
| 418 | l warp-romanbarpagenumber.sty | 1104 |
| 419 | l warp-rotating.sty | 1104 |
| 420 | l warp-rotfloat.sty | 1105 |
| 421 | l warp-rviewport.sty | 1106 |
| 422 | l warp-savetrees.sty | 1106 |
| 423 | l warp-scalefont.sty | 1107 |
| 424 | l warp-scalerel.sty | 1107 |
| 425 | l warp-schemata.sty | 1108 |
| 426 | l warp-scrextend.sty | 1108 |
| 427 | l warp-scrhack.sty | 1112 |
| 428 | l warp-scrlayer.sty | 1112 |
| 429 | l warp-scrlayer-notecolumn.sty | 1114 |
| 430 | l warp-scrlayer-scrpage.sty | 1114 |

| | | |
|-----|-----------------------------------|------|
| 431 | l warp-scrpage2.sty | 1116 |
| 432 | l warp-section.sty | 1117 |
| 433 | l warp-sectionbreak.sty | 1117 |
| 434 | l warp-sectsty.sty | 1118 |
| 435 | l warp-selectcp.sty | 1119 |
| 436 | l warp-semantic-markup.sty | 1119 |
| 437 | l warp-seqsplit.sty | 1120 |
| 438 | l warp-setspace.sty | 1121 |
| 439 | l warp-shadethm.sty | 1122 |
| 440 | l warp-shadow.sty | 1122 |
| 441 | l warp-shapepar.sty | 1123 |
| 442 | l warp-showidx.sty | 1123 |
| 443 | l warp-showkeys.sty | 1123 |
| 444 | l warp-showtags.sty | 1124 |
| 445 | l warp-shuffle.sty | 1124 |
| 446 | l warp-sidecap.sty | 1125 |
| 447 | l warp-sidenotes.sty | 1126 |
| 448 | l warp-simplebnf.sty | 1127 |
| 449 | l warp-SIunits.sty | 1129 |
| 450 | l warp-siunitx.sty | 1137 |
| 451 | l warp-siunitx-v2.sty | 1138 |
| 452 | l warp-skmath.sty | 1152 |
| 453 | l warp-slantsc.sty | 1158 |
| 454 | l warp-slashed.sty | 1158 |
| 455 | l warp-soul.sty | 1159 |
| 456 | l warp-soulpos.sty | 1161 |
| 457 | l warp-soulutf8.sty | 1161 |

| | | |
|-----|---------------------------------|------|
| 458 | l warp-splitbib.sty | 1161 |
| 459 | l warp-splitidx.sty | 1162 |
| 460 | l warp-srcltx.sty | 1164 |
| 461 | l warp-srctex.sty | 1164 |
| 462 | l warp-stabular.sty | 1164 |
| 463 | l warp-stackengine.sty | 1165 |
| 464 | l warp-stackrel.sty | 1167 |
| 465 | l warp-statex2.sty | 1167 |
| 466 | l warp-statistics.sty | 1171 |
| 467 | l warp-statmath.sty | 1177 |
| 468 | l warp-steinmetz.sty | 1179 |
| 469 | l warp-stfloats.sty | 1179 |
| 470 | l warp-struktex.sty | 1180 |
| 471 | l warp-subcaption.sty | 1180 |
| 472 | l warp-subfig.sty | 1181 |
| 473 | l warp-subfigure.sty | 1185 |
| 474 | l warp-subsupscripts.sty | 1186 |
| 475 | l warp-supertabular.sty | 1187 |
| 476 | l warp-svg.sty | 1189 |
| 477 | l warp-swfigure.sty | 1189 |
| 478 | l warp-sympytex.sty | 1190 |
| 479 | l warp-syntonly.sty | 1190 |
| 480 | l warp-tabfigures.sty | 1191 |
| 481 | l warp-tablefootnote.sty | 1191 |
| 482 | l warp-tables.sty | 1191 |
| 483 | l warp-tabularx.sty | 1192 |
| 484 | l warp-tabulary.sty | 1192 |

| | | |
|-----|------------------------------------|------|
| 485 | l warp-tagpdf.sty | 1193 |
| 486 | l warp-tascmac.sty | 1196 |
| 487 | l warp-tcolorbox.sty | 1198 |
| 488 | l warp-tensor.sty | 1203 |
| 489 | l warp-termcal.sty | 1205 |
| 490 | l warp-textarea.sty | 1206 |
| 491 | l warp-textcomp.sty | 1206 |
| 492 | l warp-textfit.sty | 1210 |
| 493 | l warp-textpos.sty | 1210 |
| 494 | l warp-theorem.sty | 1211 |
| 495 | l warp-thinsp.sty | 1215 |
| 496 | l warp-thm-listof.sty | 1215 |
| 497 | l warp-thm-restate.sty | 1216 |
| 498 | l warp-thmbox.sty | 1216 |
| 499 | l warp-thmtools.sty | 1217 |
| 500 | l warp-threadcol.sty | 1217 |
| 501 | l warp-threeparttable.sty | 1218 |
| 502 | l warp-threeparttablex.sty | 1219 |
| 503 | l warp-thumb.sty | 1220 |
| 504 | l warp-thumbs.sty | 1220 |
| 505 | l warp-tikz.sty | 1220 |
| 506 | l warp-tikz-imagelabels.sty | 1222 |
| 507 | l warp-titleps.sty | 1222 |
| 508 | l warp-titleref.sty | 1225 |
| 509 | l warp-titlesec.sty | 1225 |
| 510 | l warp-titletoc.sty | 1227 |
| 511 | l warp-titling.sty | 1229 |

| | | |
|-----|--------------------------------|------|
| 512 | l warp-tocbasic.sty | 1233 |
| 513 | l warp-tocbibind.sty | 1234 |
| 514 | l warp-tocdata.sty | 1236 |
| 515 | l warp-toccenter.sty | 1237 |
| 516 | l warp-tocloft.sty | 1237 |
| 517 | l warp-tocstyle.sty | 1243 |
| 518 | l warp-todo.sty | 1244 |
| 519 | l warp-todonotes.sty | 1245 |
| 520 | l warp-topcapt.sty | 1246 |
| 521 | l warp-tram.sty | 1247 |
| 522 | l warp-transparent.sty | 1247 |
| 523 | l warp-trimclip.sty | 1248 |
| 524 | l warp-trivfloat.sty | 1248 |
| 525 | l warp-truncate.sty | 1249 |
| 526 | l warp-turnthepage.sty | 1249 |
| 527 | l warp-twoup.sty | 1250 |
| 528 | l warp-txfonts.sty | 1250 |
| 529 | l warp-txgreeks.sty | 1250 |
| 530 | l warp-typearea.sty | 1251 |
| 531 | l warp-typicons.sty | 1252 |
| 532 | l warp-ulem.sty | 1252 |
| 533 | l warp-umoline.sty | 1254 |
| 534 | l warp-underscore.sty | 1255 |
| 535 | l warp-unicode-math.sty | 1255 |
| 536 | l warp-units.sty | 1259 |
| 537 | l warp-unitsdef.sty | 1260 |
| 538 | l warp-upgreek.sty | 1261 |

| | | |
|-------|---|------|
| 539 | l warp-upref.sty | 1261 |
| 540 | l warp-url.sty | 1261 |
| 541 | l warp-ushort.sty | 1262 |
| 542 | l warp-uspace.sty | 1262 |
| 543 | l warp-variorref.sty | 1262 |
| 544 | l warp-verse.sty | 1263 |
| 545 | l warp-versonotes.sty | 1264 |
| 546 | l warp-vertbars.sty | 1265 |
| 547 | l warp-vmargin.sty | 1265 |
| 548 | l warp-vowel.sty | 1266 |
| 549 | l warp-vpe.sty | 1266 |
| 550 | l warp-vwcol.sty | 1267 |
| 551 | l warp-wallpaper.sty | 1269 |
| 552 | l warp-watermark.sty | 1269 |
| 553 | l warp-widetable.sty | 1270 |
| 554 | l warp-widows-and-orphans.sty | 1270 |
| 555 | l warp-witharrows.sty | 1270 |
| 556 | l warp-wrapfig.sty | 1272 |
| 557 | l warp-xbmks.sty | 1273 |
| 558 | l warp-xcolor.sty | 1274 |
| 667 | xcolor | 1274 |
| 667.1 | Limitations | 1274 |
| 667.2 | xcolor definitions: location and timing | 1274 |
| 667.3 | Package loading | 1276 |
| 667.4 | Remembering and restoring original definitions | 1276 |
| 667.5 | \normalcolor | 1276 |
| 667.6 | HTML color style | 1277 |

| | | |
|------------|------------------------------------|-------------|
| 667.7 | HTML border | 1278 |
| 667.8 | High-level macros | 1278 |
| 667.9 | Row colors | 1282 |
| 559 | l warp-xchangebar.sty | 1284 |
| 560 | l warp-xellipsis.sty | 1284 |
| 561 | l warp-xetexko.sty | 1285 |
| 562 | l warp-xevlna.sty | 1285 |
| 563 | l warp-xfakebold.sty | 1285 |
| 564 | l warp-xfrac.sty | 1286 |
| 565 | l warp-xltabular.sty | 1288 |
| 566 | l warp-xltxtra.sty | 1289 |
| 567 | l warp-xmpincl.sty | 1289 |
| 568 | l warp-xpiano.sty | 1290 |
| 569 | l warp-xpinyin.sty | 1290 |
| 570 | l warp-xr.sty | 1292 |
| 571 | l warp-xr-hyper.sty | 1292 |
| 572 | l warp-xtab.sty | 1293 |
| 573 | l warp-xunicode.sty | 1294 |
| 574 | l warp-xurl.sty | 1295 |
| 575 | l warp-xy.sty | 1296 |
| 576 | l warp-zhlineskip.sty | 1297 |
| 577 | l warp-zwpagelayout.sty | 1297 |
| 578 | l warp-patch-komascript.sty | 1298 |
| 579 | l warp-patch-memoir.sty | 1301 |
| 688 | patch-memoir | 1301 |
| 688.1 | Packages | 1302 |
| 688.2 | Label handling | 1303 |

| | | |
|------------|---|-------------|
| 688.3 | Page layout | 1304 |
| 688.4 | Text and fonts | 1306 |
| 688.5 | Titles | 1307 |
| 688.6 | Abstracts | 1307 |
| 688.7 | Document divisions | 1307 |
| 688.8 | Pagination and headers | 1310 |
| 688.9 | Paragraphs and lists | 1311 |
| 688.10 | Contents lists | 1312 |
| 688.11 | FLOATS AND CAPTIONS | 1316 |
| 688.12 | Footnotes and page notes | 1320 |
| 688.13 | Decorative text | 1322 |
| 688.14 | Poetry | 1322 |
| 688.15 | Boxes, verbatims and files | 1322 |
| 688.16 | Cross referencing | 1323 |
| 688.17 | Back matter | 1324 |
| 688.18 | Miscellaneous | 1325 |
| 688.19 | ccaption emulation | 1326 |
| 688.20 | Final patchwork | 1329 |
| 580 | l warp-common-multimedia.sty | 1329 |
| 581 | l warp-common-mathjax-letters.sty | 1334 |
| 582 | l warp-common-mathjax-newpxmath.sty | 1341 |
| 583 | l warp-common-mathjax-nonunicode.sty | 1347 |
| 584 | l warp-common-mathjax-overlaysymbols.sty | 1350 |
| | Change History | 1351 |
| 694 | Chg Hist | 1351 |
| | Index of Objects | 1392 |
| | General Index | 1416 |
| | Troubleshooting Index | 1421 |

| | |
|-------------------------|-------------|
| Index of Indexes | 1428 |
|-------------------------|-------------|

List of Figures

| | | |
|---|----------------------|----|
| 1 | tutorial.tex listing | 88 |
|---|----------------------|----|

List of Tables

| | | |
|----|--|------|
| 1 | Typesetting conventions | 69 |
| 2 | L ^A T _E X lwarp package — Supported features | 70 |
| 3 | Required software programs | 81 |
| 4 | Configuration files created by print version | 90 |
| 5 | Localization settings | 103 |
| 6 | Accessibiltiy settings | 105 |
| 7 | Lwarp package options | 109 |
| 8 | HTML settings | 115 |
| 9 | \includegraphics and file names | 166 |
| 10 | Literal character macros | 185 |
| 11 | Section HTML headings for word-processor conversion | 194 |
| 12 | Section depths and HTML headings | 211 |
| 13 | Tabular baseline | 478 |
| 14 | Tabular HTML column conversions | 479 |
| 15 | HTML column type internal macros | 480 |
| 16 | Cross-referencing data structures | 524 |
| 17 | Float data structures | 536 |
| 18 | CSS related to the sidetoc | 548 |
| 19 | amsthm package—css styling of theorems and proofs | 682 |
| 20 | Ntheorem package—css styling of theorems and proofs | 1049 |
| 21 | Theorem package—css styling of theorems and proofs | 1211 |

1 Updates

The following is a summary of updates to `lwarf`, highlighting new features and any special changes which must be made due to improvements or modifications in `lwarf` itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1391](#).

v0.902: beamerarticle, footnotes, paragraph tags.

- `core`
 - Fixed footnotes inside descriptions, minipages, `amsthm`, `\nameref`.
 - Improved various paragraph tags.
- `packages`
 - Improved `parnotes`, `sympytex`.
 - Added `beamerarticle`.
 - Updated `luatexko`, `xetexko`, `tagpdf`.
- `MATHJAX`
 - Added missing standard international text symbols for MATHJAX.

v0.901: Tabular columns, float caption css, MATHJAX packages.

- `core`
 - Added `warpsvg` to isolate SVG math, as opposed to `warpMathJax`.
 - Improved float caption css for newer browsers.
 - Improved emulation of `\newcolumntype`.
 - Added `\HTMLnewcolumntype`. See section [7.6](#),
 - `>{\centering\arraybackslash}`, etc. now sets HTML CSS `text-align`. Also detects `\itshape`, `\bfseries`, and `\bfseries\itshape`. See section [8.10.1](#).
- `MATHJAX`
 - Now uses MATHJAX 3.2 packages for `centernot`, `colortbl`, `gensymb`, `mathtools`, `textcomp`, `upgreek`.
- `packages`
 - `dcolumn`: Now works inside a `lateximage`.
 - Added `mwe`.
 - Added `lltjp-tascmac`, which fixed `ascmac`.

v0.900: Package updates.

- `core`
 - Fix for detecting `\usepackage{lwarf}`.
- `packages`
 - `amsmath`: Fixed `alignat` with MATHJAX.
 - `changes`: Updated to v4.2.1.
 - `froufrou`: Updated to v1.4.0.
 - `lipsum`: Updated to v2.3.

v0.899: Minor updates.

- `core`
 - `lwarfmk`: Warns if `\usepackage{lwarf}` is not detected.
- `packages`
 - `graphics`: Added support for `keepaspectratio`.
 - `keyfloat`: Fix: `lw` with `h`.
 - `multicol`: Improved css.

v0.898: Minor updates.

- Fewer underfull \hbox warnings.
- wrapfig: Improved integration with keyfloat.

v0.897: siunitx rollback.

| | |
|----------|--|
| docs | • Added a table of file extensions to use with \includegraphics. See table 9. |
| core | • Added tests for additional incompatible packages. |
| packages | <ul style="list-style-type: none">• siunitx: Supports rollback to v2. Does not yet support v3.• fixme: Improved to work if the user modifies layouts.• float: Improved integration with newfloat, keyfloat.• Added centerlastline, decorule, fancypar, froufrou, pbalance.• Verified works as-is with fnpct. |

v0.896: Back references, accessibility.

| | |
|---------------|--|
| ⚠ | <ul style="list-style-type: none">• Due to changes in cross referencing, execute <code>lwarpmk clean</code> before recompiling. |
| MATHJAX | <ul style="list-style-type: none">• Increased sectioning nesting stack depth. Error if overflow stack. |
| theorems | <ul style="list-style-type: none">• Fixed footnotes at the end of the document, or inside a description label.• Added an error if using braces inside \usepackage options. |
| accessibility | <ul style="list-style-type: none">• Fixed footnotes in bracket display math with MATHJAX.• LATEX theorems, amsthm, ntheorem, theorem: Print theorem footnotes following theorems.• Added HTML <main> element to each page.• Added ARIA math role to SVG math images, and note role to margin notes, footnotes, etc. |
| packages | <ul style="list-style-type: none">• Added citation backreferences for various packages.• chemfig: Updated to v1.6a.• bigdelim: Updated to v2.8.• xetexko: Updated to v3.1.• hyperxmp: Fix: Accept and discard additional keys.• hyperef: Fix: Added *autorefname macros.• biblatex: Fix: Back references.• tocloft: Fix: \cftpagenumbersoff, \cftpagenumberson.• threeparttable: Fix: \TPTL@tnotex.• amsthm: Fix: Footnotes inside environment optional argument.• listings: Fixed labels. Accepts but ignores escapes w/o error.• pdflscape: Fix: Added landscape environment.• Added ccicons, classictesis, orcidlink.• Added enotez.• Verified support for doi, doipubmed. |

v0.895: Vector packages, greatly improved MATHJAX for siunitx.

- core
 - Fixed quotes in HTML tags while using old font packages with X_EL^AT_EX and L^aU_AL^ET_EX.

MATHJAX
packages

- Added `\ifblank` and `\ifstreq` to MATHJAX emulation.
 - `multirow`: Allow `\par` per v2.7.
 - `acro`: Updated to v3.5.
 - `fancyhdr`: Updated to v4.0.
 - `changes`: Updated to v4.0.1.
 - `epsfig, rotating`: Now work inside `lateximage`.
 - `amscdx`: Verified to work with SVG math. Warning added about use with MATHJAX.
 - Added MATHJAX emulation for `isomath`, `mattens`, `maybemath`, `skmath`, `tensor`.
 - Improved MATHJAX emulation for `siunitx` `\ang`, `\num`, `\SI`.
 - Added `epsf`, `impnattypo`, `isotope`, `lpic`, `luavlna`, `mdwmath`, `pinlabel`, `rlepsf`, `tikz-imagelabels`, `xevlna`.
 - Verified to work as-is: `tensind`.

v0.894: MATHJAX additions and improvements.

MATHJAX

- Improved warning message for enabling SVG graphics for select math expressions while using MATHJAX.

packages

- Accept and ignore a star for `\hspace`.
- Ignores `\arabic`, `\number`, `\noalign`.
- Added MATHJAX emulation for `backnaur`, `colortbl`, `nicematrix`.
- `booktabs`: MATHJAX emulation now absorbs and discards `trim`.
- `menukeys`: Updated to v1.6.1.

v0.893: Minor fixes, more packages.

MATHJAX
packages

- Added MATHJAX emulation for `\mathnormal`.
- Fixed `pstricks pspicture*`.
- Fixed tikz font macros.
- `braket`: Now uses the MATHJAX extension.
- Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectcp`, `seqssplit`, `simplebnf`, `statistics`, `swfigure`.
- Added MATHJAX emulation for `mathspec`.
- Verified to work as-is for `apxproof`, `syntaxdi`, `venndiagram`.

v0.892: `minted`, `fverextra`, MATHJAX `\left/\right`.

MATHJAX
packages

- `fourier`, `libertinustlmath`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added MATHJAX `\left/\right` support for additional delimiters.
- `textpos`: Updated to v1.10.
- `xcolor`: Fixed optional args for `\fcolorbox` and related.
- Added `fverextra`, `minted`.

v0.891: MATHJAX additions and improvements.

- core**
 - Now displays inline \verb text as \texttt{.}
 - Fixed alllt and verbatims with LATEX lists.
 - Now generates an error if nested each of warpHTML, warpprint, warpMathJax inside itself.
- MATHJAX packages**
 - Added MATHJAX *textmacros* extension, allowing formatting inside \text{.}
 - biblatex, hyperref: Added back page references.
 - fancyvrb: Fixed BVerbatim with a label.
 - listings: Fixed MATHJAX with captions, improved HTML sanitation.
 - babel-french: Fixed \texorpdfstring conflict.
 - Now honors Greek package options for mathdesign, mathpazo, mathptmx, newpxmath, newtxmath.
 - Improved MATHJAX for colonequals, mathdesign, mathdots, mathfixs, mathtools, multiobjective, nicefrac, shuffle, units.
 - unicode-math: Added Greek macros, as well as macros for the first several categories listed in **texdoc unimath-symbols**. Improved symbol shape macros with Greek. Improved documentation.
 - Added bussproofs, cmbright, fourier, kpfonts, kpfonts-otf, libertinust1math, scalerel, txgreeks.

v0.89: Additional MATHJAX support.

- core**
 - Adapted to upcoming LATEX kernel changes.
 - Allows load of amsmath before l warp.
- l warpmk**
 - Also removes *.bbl when cleaning aux files.
- MATHJAX packages**
 - MATHJAX: Neutralized \protect, \mathcode and related, ligatures. Fixed nested environments.
 - caption: Updated for v3.5, fix for label sep.
 - thmtools: Updated for v0.72. Fixed swapnumber, margin.
 - Improved MATHJAX for centernot, mathtools, mismath, Slunits, siunitx, statmath.
 - Added MATHJAX emulation for accents, hepunits, hhtensor, mathalpha, mathdesign, mathpazo, mathptmx, mleftright, newpxmath, newtxmath, newtxsf, pxfonts, shuffle, txfonts, upgreek, ushort.
 - Verified to work as-is: authoraftertitle.

v0.88: Indexing, boxing, theorems.

- core**
 - Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
 - Fixed: \ref*, and also added MATHJAX emulation.
 - If starting a new paragraph, \hrulefill creates a <div> with a thin horizontal line across the page. Use instead of \hrule.
 - Fixed: Use \chaptername where appropriate.

- Fixed: Inline links causing extraneous paragraphs.
 - Added `\warpmk -v` to print the version number.
 - Added the `IndexRef` option to control the display of index entries. See section 7.5.
 - Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
 - Added support for `gindex`, `xindex`.
 - Verified to work as-is with `varindex`.
 - `cleveref`, `varioref`: Fix for starred macros.
 - `varioref`: Removed page-related text from HTML output.
 - `xfakebold`: Updated to v0.08, using `pdfrender`.
 - `caption`, `scrextend`: Fixed `\caption*`.
 - Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.
- v0.87:** MATHJAX, bibliography packages.
- | | |
|---|---|
| <code>core</code> | • Added boolean <code>FixSmallCaps</code> for fonts which render small caps as all caps. |
| | • Fixed <code>\bibliography</code> to use the HTML version's <code>.bbl</code> file. Previously the HTML bibliography relied on the print version's <code>.bbl</code> , thus would fail if the print document had not yet been created. |
| <code>MATHJAX</code> ⚠️ Removed <code>\DeclareIfstar</code> packages | <ul style="list-style-type: none"> • <code>\ifstar</code> and <code>\ifnextchar</code> to MATHJAX, and removed <code>\DeclareIfstar</code>. See section 8.7.5. • <code>physics</code>: Now supports the MATHJAX v3 extension. • <code>mathtools</code>: Improved <code>\underbrakcet</code>, <code>\overbracket</code> for MATHJAX. • <code>nccmath</code>: Improved <code>\underrel</code> for MATHJAX. • <code>mhchem</code>: Now supports the MATHJAX v3 extension for <code>\ce</code> inside math. • <code>cancel</code>: Now supports the MATHJAX v3 extension. • <code>embrac</code>: Neutralized kerning for improved HTML conversion. • Added <code>citeref</code>, <code>drftcite</code>, <code>jurabib</code>, <code>multibib</code>, <code>splitbib</code>. • Verified to work as-is with <code>bibtopic</code>, <code>collref</code>, <code>mciteplus</code>. |
- v0.86:** MATHJAX major updates.
- | | |
|-----------------------|---|
| <code>core</code> | <ul style="list-style-type: none"> • Fixed: Filename if named files with *, parens, period in section name. • Fixed: Labels in <code>eqnarray</code>, <code>lateximage</code>. |
| <code>MATHJAX</code> | <ul style="list-style-type: none"> • Updated to MATHJAX v3. New repository. • Fixed forward references for MATHJAX. • Improved MATHJAX equation number formatting, now compatible with <code>amsmath \numberwithin</code> for chapters, sections, subsections, as well as <code>amsmath subequations</code>. See section 8.7.5. • Added <code>\DeclareIfstar</code> to define starred TeX macros in MATHJAX. See section 8.7.5. • Generates an error if <code>\MathJaxFilename</code> file does not exist. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>mathtools</code>, <code>nccmath</code>, <code>physics</code>: Added starred macros for MATHJAX. • <code>nccmath</code>: Fixed <code>\nr</code>, <code>\displaybreak</code> for MATHJAX. • <code>xcolor</code>: Fixed <code>\textcolor</code> with <code>babel-french</code>. |

v0.85: fontspec**packages**

- **fontspec**: Fixed core font change macros for world languages.

⚠ acro formats

- **acro**: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.**docs**

- Added documentation of `BlockClass` and `\InlineClass` for css `<div>`s and ``s. See section 7.8.

⚠ home page footer changed**core**

- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
- Improved coexistence with `comment`, support for nested environments.
- No longer requires but still supports the `caption` package.
- Improved filenames and `HTML` titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in tabbing.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into L^AT_EX kernel.
- Fixed `\itshape`, etc. Adapted to L^AT_EX `fontaxes` integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about X_ET_EX logo and `graphics` if actually used `\Xe`.

l warpmk**packages**

- **l warpmk clean** also removes `comment_*.cut`.
- `scrextend`, `scrartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated `memoir`.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
- Fixed or improved: `amsthm`, `backref`, `biblatex`, `fixme`, `nfssext-cfr`, `ntheorem`, `parcolumns`, `realscripts`, `rotfloat`, `titling`.
- Added `boxedminipage`, renamed from `boxedminipage2e` per author.
- Verified to work as-is with `mcite`.

v0.83: memoir fixes.

- packages**
- memoir: Various fixes and updates.
 - physunits: Updated to v1.0.4.

v0.82: MATHJAX notes, xpinyin improvements, various updates.

- MATHJAX**
- Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.

- packages**
- xpinyin: Added pinyin with modern HTML.
 - luatexko: Added \dotemph, \ruby, \uline, etc.
 - soul: Fixed \<.
 - chemfig: Updated to v1.5.
 - draftwatermark: Updated to v2.0.
 - ulem: Fixed: \dashuline.
 - amsmath: Fixed: \intertext with MATHJAX.
 - endnotes: Fixed: Marks in print mode.
 - tocvsec2, tableof: Verified to work as-is.
 - Added etoc (nullified).

v0.81: MATHJAX speedup and additional emulations.

- core**
- Improved warning regarding SVG math sizing/baselines and graphics/graphicx. See section [8.7](#).
- MATHJAX**
- Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for accsupp, axessibiliy, colonequals, decimal, dotlessi, econometrics, engtlc, multiobjective, physunits, Slunits, stackrel, statmath.
- packages**
- axessibility: Updated to 2020/01/08 version.
 - gridset: Updated to v0.3.
 - Slunits: Fixed for math mode.
 - Added DotArrow, nolbreaks, luamplib, returntogrid, statex2, tagpdf.
 - Verified to work as-is with icomma, mathpunctspace, textualicomma.

v0.80: MATHJAX, biblatex.

- MATHJAX**
- Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section [8.7.5](#), **Customizing MATHJAX**.
 - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrl, pdfcomment, relsize, rmathbr, subsupscripts, xfrac.
 - Improved MATHJAX emulation for unicode-math.
- packages**
- biblatex, url: Now create hyperlinks.
 - amsmath: Fix to center starred environments.

- `xcolor, graphics`: Made more macros robust.
- `colortbl`: Fix: Rule color in a `\teximage`.
- `chemmacros`: Updated to v5.10.
- Added `fewerfloatpages, ghsystem, hhline, mismath, nccmath`.

v0.79: MATHJAX, nested tabular.

- | | |
|-----------------------|--|
| <code>MATHJAX</code> | • Added or improved MATHJAX emulation for <code>amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold</code> . |
| <code>core</code> | <ul style="list-style-type: none"> • Warn if using certain packages not supported by MATHJAX. • <code>tabular</code>: Now may be nested. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>minipage, \parbox, fminipage, \makebox, \framebox</code>: Fix: Adjust for virtual page size. • Uses new <code>iftex</code>. • <code>graphicx</code>: Fix: Negative angles. • <code>caption</code>: Fix: <code>\captionlistentry</code> with <code>longtable</code>. • <code>multirow</code>: Fix: Centered vertical alignment. • <code>siunitx</code>: Fix: <code>\square, \cubed</code>. • <code>booktabs</code>: Fix: <code>memoir</code> with <code>\teximage</code>. • <code>babel</code> and <code>polyglossia</code>: Added troubleshooting warnings. • <code>fontawesome, fontawesome5</code>: Supports text color and size. • <code>transparent</code>: Fix: <code>\teximages</code>. • <code>epigraph</code>: Updated to v1.5e. • <code>xurl</code>: Updated to v0.08. • <code>subcaption</code>: Fixed with <code>memoir</code>. • <code>floatrow</code>: Fix: <code>\linewidth</code>. No longer require <code>float, graphics</code>. • <code>floatflt, wrapfig, niceframe</code>: Fix: Adjust for virtual page size. • Added <code>widetable, witharrows, steinmetz</code>. • Added <code>awesomebox, catoptions</code>. • Added <code>svg, supports svg-extract</code>. • Added <code>parcolumns, pdfcolparcolumns</code>, • Added <code>parallel, pdfcolparallel</code>. • Added <code>pdfcol, pdfcolfoot, pdfcolmk</code>. |

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

- | | |
|-----------------------|---|
| <code>docs</code> | <ul style="list-style-type: none"> • Docs: Improved documentation regarding package options. See section 8.1. • Fix to overwrite existing support files using new <code>filecontents</code> environment. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>breqn</code>: Previously broken by the 2019/10 L^AT_EX update, but now working again. • <code>graphics</code>: Fix for <code>\includegraphics alt</code> tags. |

- `babel-french`: Fix for hyperlinks.
- `media9`, `movie15`, `multimedia`: Fix for the 2019/10 L^AT_EX update.
- `accessibility`: Added.

v0.77: Updates to fix recently-broken packages.

- `booktabs`: Updated to v1.6180339.
- `chemformula`: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

| | |
|---|--|
| <code>docs</code> | • Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17. |
| <code>MATHJAX</code> | • MATHJAX: Updated to v2.7.6. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>xr</code>: Updated to v5.05. • <code>xr-hyper</code>: Updated to v6.1. • Verified works as-is with <code>xcite</code>. • <code>acro</code>: Updated to v2.10. |
|  <code>broken</code> | • Currently broken in print mode by the 2019/10 L ^A T _E X update, and waiting for fixes: <code>breqn</code> , <code>grffile</code> , <code>multimedia</code> , <code>movie15</code> . |

v0.75: `keyfloat`, `wrapfig`

- | | |
|-----------------------|--|
| <code>packages</code> | <ul style="list-style-type: none"> • <code>\minipage</code>: Fix for <code>\linewidth</code>. • <code>keyfloat</code>: Improved color control. • <code>wrapfig</code>: Fix for <code>\linewidth</code>. |
|-----------------------|--|

v0.74: Docs, SVG math, `lwarpmk`, HTML alt and title text, `lyluatex`

- | | |
|-------------------|--|
| <code>docs</code> | <ul style="list-style-type: none"> • Added to the tutorial the section What next?. See section 5.19. • Added documentation about localization options. See section 7.1. • Added documentation about accessibility options. See section 7.2. • Renamed and updated HTML alt text macros: |
|-------------------|--|

 `HTML alt text`
`changed names`

| Old | New |
|----------------------------------|-------------------------------------|
| (hard coded as “image”) | <code>\ImageAltText</code> |
| <code>\mathimagine</code> | <code>\MathImageAltText</code> |
| <code>\packagediagramname</code> | <code>\PackageDiagramAltText</code> |

- | | |
|-----------------------|---|
| <code>SVG math</code> | <ul style="list-style-type: none"> • Added <code>\ImageAltText</code> for the default HTML alt text for an image. See section 7.6. • Added <code>\ThisAltText</code>, which may be used to assign a one-time HTML alt tag to the very next image generated by <code>l warp</code>, such as a <code>lateximage</code>, <code>picture</code>, <code>tikzpicture</code>, an image generated by various chemistry or engineering packages, or an SVG math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6. • Adjusted <code>\LateximageFontSizeScale</code> default from .75 to 1. • Fix: Font control for SVG math. |
|-----------------------|---|

- misc**
 - Fix: Ignores negative `\hspace`.
 - Warning if `SideTOCDepth < FileDepth`.
 - l warpmk**
 - `l warpmk clean` removes additional files.
 - `l warpmk epstopdf` and `l warpmk pdftosvg` now honor directories.
 - packages**
 - `lyluatex`: Split images by system or per `fullpage`, improved margins and scaling.
 - Tested to work as-is with `mathspec`, `unicode-math`.
- v0.73:** `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.
- Fix for `\include`.
 - Warning for a `tabular` inside a ``.
 - `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
 - Improved many HTML tags, reducing `tidy` warnings. See Change History.
 - packages**
 - `memoir`: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
 - `koma-script`: Fix for starred captions in the toc.
 - `caption`: Fix for starred captions.
 - `datatool`: Added pie, bar, and plot charts.
 - `threeparttable`: Added `measuredfigure`.
 - `intopdf`: Updated to v0.2.1.
 - `tocdata`: Updated to v2.03.
 - `quotchap`: Updated to v1.2.
 - `versonotes`: Updated to v0.4.
 - `backnaur`: Now uses SVG images. Updated to v3.1.
 - `xy`: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.
 - `fancyvrb`: Fix for label HTML tags.
 - Added `stackengine`.
 - music**
 - Added `lyluatex`. (Music scores.)
 - `musicography`: Updated to 2019/05/28. Added support for `lateximages`.
- v0.72:** Font control, `\multicolumn`, `xr` and `xr-hyper`.
-  **images**
- Due to internal changes, images for inline SVG math and `lateximages` will have new hash values, and will have to be regenerated using
`Enter ⇒ l warpmk cleanimages`
and
`Enter ⇒ l warpmk limages`
 - packages**
 - `Docs`: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `l warp`.
 - `\multicolumn`: Fix for paragraph columns.
 - `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.

- **soulutf8**: Fix: Loads `soul` for emulation.
- **boxedminipage2e**: Added support for `lateximages`.
- **zhlineskip**: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssext-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

v0.71: Error handling, multimedia, tabular.

- **tabular**: Added support for '*' columns. Fix for paragraph tags.
- **quotation**: Fix for `HTML` tag.
- **Docs**: Added a section about error conditions tested by `l warp`. See section [13.1](#).
- **l warpmk**: If file `l warpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.

packages

- `chemfig`: Updated for v1.4.
- `endfloat`: Updated for v2.7.
- `textpos`: Updated for v1.9.1.

multimedia

- Added `media9`, `movie15`, `multimedia`.

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to `l warpmk l images` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a ``.
- `MATHJAX`: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.

packages

- `textcomp`, `xunicode`: Fix for `\textinterrobang`.
- `mhchem`: Works with MATHJAX. See section [409](#).
- `changes`: Updated to v3.1.2.
- Added `autonum`, `changelayout`, `inputrc`, `mathtools`, `metalogox`.

v0.69: Error handling, many fixes, improved keyfloat / tocdata.

- Fix for `HTML` corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for `(<width,height>)` arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- `array`, `longtable`: Fix for `\tabularnewline`.
- `tabularx`, `tabulary`: Fix to require the `array` package.
- `supertabular`, `xtab`: Fix to clear caption after use.
- `graphics`: Added a warning if used the `\includegraphics scale` option.

- `multirow`: Added an error if didn't use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
- `keyfloat`: Updated for v2.00, additional improvements.
- Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

v0.68: Error handling, tabulars, footnotes.

l warpmk

- *l warpmk*: Improved error handling for image generation if compile was incomplete.

packages

- `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for `l warp`.
- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcprot`, `fncylab`.

v0.67: Filename generation, symbol fonts.

docs

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.

filenames

- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- Core, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.

packages

- `color`: Fix for version number warnings.
- Added `academicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

v0.66: xr, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in *l warpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *l warpmk* may then be used with the new configuration files.

lateximage

- Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for `lateximage` images. The new defaults include the job-name, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing `lateximage` directories, add `l warp` options

```
\usepackage[  
    ImagesDirectory={lateximages},  
    ImagesName={lateximage-}  
]{lwarp}
```

If not reused, the existing `lateximages` directory and `lateximages.txt` file may be removed.

[filenames](#)

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.

 [Possible filename changes](#)

[WINDOWS](#)

[floats](#)

[lists, table notes](#)

[tabular](#)

[indexing](#)

[minipage](#)

[colors](#)

[HTML](#)

[docs](#)

[packages](#)

- Fix for `lwarpmk cleanimages` with `WINDOWS`.
- Fixes for floats in the home page.
- Improved css for definition lists, table notes.
- `tabular`: Fixes for `\par` in column specifier, minipage inside `tabular`.
- Indexing: Fix for a long line of multiple entries.
- `\minipagefullwidth`: Fix for global changes.
- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section [8.3.3](#).
- Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- Improved `HTML` output formatting.
- Added discussion regarding invalid `HTML`. See section [8.1.1](#).
- Added discussion regarding math in section names, `\imagegraphics scale` option. See section [6](#).
- Added discussion regarding international languages in section names. See section [8.14](#).
- `caption`: Fix for options clash.
- `xr, xr-hyper`: Now compatible.
- `subcaption`: Improved horizontal spacing.
- `multicol`: Fix for minipage inside `multicols`.
- `multicolrule`: Updated for v1.2.
- `tocbasic`: Minor update.
- `acronym`: Fix for acronym in float caption.
- `kotexutf`: Patch with `pdflatex` and new `lwarp` labels.
- `extramarks, fancyhdr`: Updated for v3.10.
- `memoir`: Added docs regarding version numbers. See section [8.13](#).
- `zref`: No longer required.
- Added `ar, ed, indentfirst, nameauth, truncate`.
- Verified to work as-is with `changelog`.
- Prevented `colortab, epsf, hyper, picinpar, picins, sistyle, ucs`.

v0.65: css layout, alt tags, Japanese.

| | |
|--------------------------------------|--|
| page layout | <ul style="list-style-type: none"> Moved the sidetoc to the left side, allowing improved css for margin notes. Improved page layout css. |
| image alt tags | <ul style="list-style-type: none"> graphicx \includegraphics: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation. |
| duplicate HTML files | <ul style="list-style-type: none"> Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names. |
| fixes | <ul style="list-style-type: none"> Fix for tabular*. Fix for tabular border colors. Fixes \quad, \enskip, and figure captions to pass validation. |
| Japanese | <ul style="list-style-type: none"> Added ltj* classes, bounddvi, gentombow, lltjtext, plarydshln, plect, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac. Verified to work with plarray, plautopatch, plectarray, plectdelarray, pxgentombow, plsiunitx, pxpdfpages, pxpgfrcs, pxpgfmark. |
| packages | <ul style="list-style-type: none"> Added support for fontspec \textsi and \sishape. Added multicol's \docolaction. Added embrac, footnoterange, multicolrule, versonotes. |

v0.64: Koma-Script, Japanese, Chinese.

| | |
|-----------------------------|--|
| Japanese | <ul style="list-style-type: none"> Added utarticle and related classes. Improved ujarticle and related classes. |
| Chinese | <ul style="list-style-type: none"> Fix for biblatex with CTEX and other classes. |
| Koma-Script | <ul style="list-style-type: none"> Fixes for scrlayer, scrlayer-scrpage. |
| packages | <ul style="list-style-type: none"> addlines: Updated to v0.3. Added bsheaders, gmeometric, marginal, rmpage, scrpage2. |

v0.63: mdframed, Chinese, Japanese, Korean

| | |
|-------------------------------|---|
| localization | <ul style="list-style-type: none"> Added \linkhomename: A user-definable name for the Home link. Documented \sidetocname: A user-definable name for the sidetoc. |
| fixes | <ul style="list-style-type: none"> Fix: \LinkHome for print output. |
| optimizations | <ul style="list-style-type: none"> Moved package load checks to the lwarf core to reduce the number of lwarf-* files. |
| packages | <ul style="list-style-type: none"> mdframed: Fix with amsthm, improved titles and font control. Improved rule widths. |
| Chinese | <ul style="list-style-type: none"> Fixes for xeCJK. Added xpinyin, zhlineskip. Verified to work with cjkpunct, upzhkinsoku, zhspacing. |
| Japanese | <ul style="list-style-type: none"> Verified to work with zxjatype, luatexja, luatexja-fontspec. Added bxjsarticle and related classes. Added ltjsarticle and related classes. Added pIATEX, upIATEX, ujarticle and related classes. |

- Prevented `utarticle` and related classes.
- Prevented `bxcjkatype`.
- Verified to work with `kotex`, `xetexko`, `luatexko`.

Korean

v0.62: MiK_TE_X docs, HTML title, C_TE_X, xeCJK, bitpattern.

| | |
|-------------------------------------|---|
| docs | <ul style="list-style-type: none"> • Docs: Setting a UTF-8 locale. See section 9.9. |
| MiK_TE_X | <ul style="list-style-type: none"> • MiK_TE_X: Docs for <i>MiK_TE_X Console</i> and <code>miktex-poppler-bin</code>. |
| HTML <title> | <ul style="list-style-type: none"> • HTML subplot titles: Added <code>\HTMLTitleBeforeSection</code> and <code>\HTMLTitleAfterSection</code> to select whether the <code>HTML <title></code> displays the website name before or after the section name. See section 7.6. |
| fixes | <ul style="list-style-type: none"> • Fix for package options handling. • Fixes for horizontal white space between <code>fminipage</code>, <code>fcolorminipage</code>, <code>colorboxBlock</code>, <code>fcolorboxBlock</code>. • Logos: Fix for X_TE_X logo, improved css, made robust, improved search-engine optimization. • <code>\\\[\$1]</code>: Additional HTML <code> </code> if $\$1 > 0 \text{ pt}$. • Fixes for <code>\includgraphics</code> filename, and with <code>FormatWP</code>. • Fix: css for <code>\textup</code>. • Fix: Added <code>\s\shape</code>. |
| Chinese | <ul style="list-style-type: none"> • Added <code>ctex</code> package and related classes, xeCJK. • Prevented CJK, CJUtf8 unless xeCJK, ctex are used. |
| packages | <ul style="list-style-type: none"> • <code>chemfig</code>: Docs for new macro <code>\polymerdelim</code>. • <code>asymptote</code>: Docs for compilation. • <code>chngpage</code>: Fix to load l warp-changepage. • <code>algorithm2e</code>: Fix with non-book classes. • <code>register</code>: Updated to v1.8. • <code>nicefrac</code>: Improved font control and css, honors nice and ugly. • <code>units</code>: Improved font control and css, honors tight and loose. • <code>xfrac</code>: Improved css. • <code>textcomp</code> and <code>xunicode</code>: Fix conflicts with <code>\textcircled</code>. • <code>ulem</code>: Improved compatibility with CJKulem, lateximage. • MATHJAX and siunitx: Removed inoperable extension. • Added <code>bitpattern</code>, <code>pdfcomment</code>, <code>pdfmarginpar</code>, <code>tram</code>, <code>unitsdef</code>, <code>xchangebar</code>. • Added <code>musicography</code>, <code>octave</code>, <code>semantic-markup</code>. • Added <code>2in1</code>, <code>flippdf</code>, <code>notespages</code>, <code>rviewport</code>, <code>twoup</code>. |

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

| | |
|-------------|---|
| docs | <ul style="list-style-type: none"> • Split index into multiple indexes. • Improved documentation regarding font selection. See section 7.4. • Added documentation regarding debugging options. See section 35. |
|-------------|---|

- Added documentation regarding HTML entities inside program listings. See section 8.2.1.
- custom compiling**
- Added options to specify the shell commands to execute for **lwarpmk print** and **lwarpmk html**, allowing the use of lwarf with perltex, pythontex, etc. If not specified, these are set automatically depending on the LATEX engine, --shell-escape, and lwarf options. See section 9.
- ⚠ changed names**
- Changed macro names to match \displaymathother, \displaymathnormal:
- | Old | New |
|-------------------|-------------------|
| \StartDynamicMath | \inlinemathother |
| \StopDynamicMath | \inlinemathnormal |
- fixes**
- Fix: Paragraph tags in a tabular.
 - Fix: supertabular and xtab captions.
 - Fix: DVI LATEX \includegraphics EPS images.
 - Fix: newfloat lists.
 - Fix: css footnotes text align, minipage tabular and footnote margins.
- packages**
- Added epsfig, psfrag, psfrags, pstool.
 - Added copyrightbox, pdfprivacy, thinspace, threadcol, uspace.
 - Added chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.
- v0.60:** Fixes for longtable, listings.
- fixes**
- **longtable**, etc.: Fixes for slowdown and memory management for very long tables.
 - **listings**: Fix for HTML entities, and also when used inside a list.
 - **diagbox**: Fix for incorrect HTML par tags.
- packages**
- Added 2up, booklet.
 - Added bophook, draftfigure, fullminipage, grid-system, layaureo.
 - Added leading, widows-and-orphans.
 - Added fancytabs, thumb, thumbs.
- v0.59:** DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.
- ⚠ Reset the configuration**
- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.
- lwarpmk**
- Added an error if *lwarpmk.conf*'s format has changed and the document must be recompiled.
 - Added a warning if the *lwarpmk.conf* configuration file appears to be for the wrong operating system, in case files are transferred between systems.
 - Added


```
lwarpmk epstopdf <list-of-EPS-files>
```

 to quickly convert a document's EPS images to PDF or SVG. See section 8.8.
- DVI *latex***
- Added support for DVI *latex*. See section 7.5.

- latexmk*
 - Fix for --shell-escape with *latexmk*.
- math*
 - Updated MATHJAX script to v2.7.4.
 - Fix: MATHJAX chapter number removed from non-numeric tagged equations.
 - Added MATHJAX support for nicefrac, units.
 - Fix for \[and \] with \displaymathnormal.
- images*
 - Fix for \includegraphics filename expansion.
 - \includegraphics now works with .pdf and .eps filename extensions.
- packages*
 - Moved amsmath out of the lwarf core.
 - Fix for chemformula \NMR.
 - Added asymptote, pdftricks, pstricks, pst-eps.
 - Added breqn, Slunits.
 - Added bxpapersize, canoniclayout, draftcopy, fnbreak, nccfancyhdr.
 - Added accsupp, axessibility.
 - Added xunicode.
 - Improved and now supports epstopdf.
 - Tested to work as-is: eepic, sepfootnotes.
- docs*
 - Added information about setting up a development version of lwarf.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.

⚠ Reset the configuration

- lwarpmk*
 - Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.
- glossaries*
 - *lwarpmk*: Added the -p option to specify the project name.
 - *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.
 - Added lwarf option GlossaryCmd to specify the shell command used by **lwarpmk printglossary** and **lwarpmk htmlglossary**. Defaults to **makeglossaries**.
 - Docs: Extra indexing options. See section [8.6.14](#).
 - Added support for *makeindex*. (Previously supported only *xindy*.) Also added indexing packages listed below.
 - Added lwarf options PrintIndexCmd, HTMLIndexCmd, and LatexmkIndexCmd to specify shell commands used by **lwarpmk printindex**, **lwarpmk htmlindex**, and *latexmk*. May be preset with the *makeindex* or *xindy* lwarf options. See section [7.5](#).
 - Added lwarf options *makeindex* and *xindy* to set PrintIndexCmd, HTMLIndexCmd, and LatexmkIndexCmd to sensible values for a typical single index. See section [7.5](#).
 - Added lwarf option *makeindexStyle* to tell *lwarpmk* to use a custom style instead of *lwarf.ist*. See section [8.6.20](#).
 - Fix for index entries with \see, \seealso, \emph, \textbf, etc.
 - Replaced each \csuse with \nameuse for improved error detection.
- index and glossary*
- misc. fixes*

- Additional internal print/HTML macro selection improvements.
 - Fix: `\printindex` finishes pending `\index` writes first.
 - Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.
 - Fixes for `komascript`: Indexing improvements.
 - Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
 - Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
 - Added `cases`.
 - Tested to work as-is: `notes2bib`, `hvindex`.
- v0.57:** `algorithm2e`, `float` styles, `tabular` packages, internal improvements.
- | | |
|---|--|
| MathJax math macros dynamic math ⚠ new name lateximage alt tags misc. fixes packages | <ul style="list-style-type: none"> • Added support for MATHJAX equations with <code>\footnote</code>, <code>\footnotemark</code>. • Added <code>\StartDefiningMath</code> and <code>\StopDefiningMath</code> for use when defining macros in the preamble which contain \$. See section 8.7.7. • Added <code>\inlinemathother</code> and <code>\inlinemathnormal</code> to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to SVG math images even when MATHJAX is enabled. See section 8.7.8. • Renamed <code>\EndDefiningTabulars</code> to <code>\StopDefiningTabulars</code>. • Improved localization for <code>lateximage</code> HTML alt tags. For SVG math images, the alt tag under some conditions will be set to <code>\MathImageAltText</code>, which defaults to <code>math image</code>. For packages, the alt tag is set using the package name followed by <code>\PackageDiagramAltText</code>, which defaults to <code>diagram</code>. Ex: <code>(-xy- diagram)</code> <p>See section 7.6.</p> <ul style="list-style-type: none"> • Fix: Improved print/HTML macro selection. • Fix: <code>\href</code> text catcodes. • Fix: <code>\subref</code> text. • Fixes: Colored <code>\rule</code> and <code>\boxframe</code>. • <code>float</code>, <code>rotfloat</code>: Adds support for float styles <code>ruled</code> and <code>boxed</code>. • <code>float</code>: Fix: Do not create <code>\l@<type></code> until <code>\listof</code> is used. • <code>marginnote</code>: Fix: Long optional argument. • <code>ellipsis</code>: Adds <code>\midwordellipsis</code>. • <code>breakurl</code>: Fix for text catcodes. • Added <code>algorithm2e</code>, <code>register</code>, <code>ltablex</code>, <code>xltabular</code>, <code>xellipsis</code>, <code>trimclip</code>, <code>errata</code>, <code>vowel</code>, <code>xpiano</code>. • Prevents <code>glossary</code>. • Tested to work as-is with <code>gauss</code>, <code>phonrule</code>, <code>piano</code>, <code>Slunits</code>, <code>tikzcodeblocks</code>. |
|---|--|

v0.56: Shell escape, tabular packages.

lwarpmk

- Added `lwarpmk pdftosvg <list-of-PDF-files>`

to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.

- Added support for `--shell-escape`. See section 7.3.

tabular

- Added support for `array w` and `W` columns.
- Fix: `\multicolumn` parameter handling.
- Added support for double `\hlines`, `\midrules`, and vertical rules.
- Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.

misc. fixes

- Fix: `\thinspace`.
- Fix: `paralist compact` environments.

packages

- Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
- Added `bibunits`.
- Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

v0.55: Various fixes.

misc fixes

- Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
- Fix: Float optional argument regression.
- Fix: `\ForceHTMLTOC` with `\phantomsection`.
- Fix: Overfull boxes in `lateximages`.
- Fix: QED symbols in `lateximage`.

packages

- `koma-script`: Fix: Figure with `\centering`, etc.
- Added `clrdblpg`.

v0.54: Float `\centering`, improved image checks.

 Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

lwarpmk

- `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.
- `lwarpmk`: Improved error message if configuration file does not exist.

BIBTeX

- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.

polyglossia

- Added documentation regarding `polyglossia`. See section 8.15.4.

macros in section names

- Added documentation regarding the use of macros in section names. See section 8.1.

document encoding

- Renamed and added package options:

 New and revised encoding options

| Old Package Option | New Package Option |
|--------------------|--------------------|
| xdyFilename | xindyStyle |
| IndexLanguage | xindyLanguage |
| – | xindyCodepage |
| – | pdftotextEnc |

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section [7.4](#).

floats with \centering, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- tikz: `\pgfpicture`, `fit`, `align`, `font`.
- ragged2e: `\centering` etc.
- hyperref: `\hypertarget` was creating duplicate of `\label`.
- hyperref: Active chars inside `\hyperref`, `\hyperlink`.
- hyperref: `\ref` inside `\hyperlink` caused a nested HTML link.
- glossaries: Fix when not using `babel` or `polyglossia`.
- textcomp: `\textperthousand`.
- L^AT_EX core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- memoir: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chngpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `t1enc`, and `wasysym`.



packages

v0.53: Improved image checks.

lwarpmk

- `lwarpmk`: Added a warning about corrupted images due to the need to recompile the document one more time.
- `lwarpmk`: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

v0.52: Improved footnotes, SVG math.

documentation

- Improved install instructions regarding `lwarf_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section [8.5.4](#).
- Added documentation regarding font selection when using XeL^AT_EX or LuaL^AT_EX with `fontspec` and traditional font packages. See section [7.4](#).

SVG math

- Fix: Limit the number of background tasks when generating `lateximages`.
- Added user-adjustable SVG math font scaling. See section [84.3](#).
- Added warnings if `lwarf_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
- Improved `\ensuremath` hashing expansion.

- Fix: `equation*` with `split`.
- tabbing now works inside a `\teximage`. Use for math in tabbing.
- MathJax**
 - Fix: MATHJAX script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- footnotes**
 - Fix: Footnote numbering when using `HTMLDebugComments`.
 - Fix: Footnote paragraph tags.
 - Fix: `FootnoteDepth` defaults to `\subsubsection`.
- misc. fixes**
 - Fix: `\kill` in a `\teximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.
- packages**
 - `hyperref` emulation: Fix for #, %, &, ~, _ characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
 - `nicefrac`: Added with fix for `\ensuremath`.
 - `graphicx`: Fix for option defaults. Added v1.1a/b options.
 - `endfloat`: Updated for v2.6.
 - `url`: Fixes for active characters.

2 Introduction

The `lwarp` project aims to allow a rich L^AT_EX document to be converted to a reasonable HTML5 interpretation, with only minor intervention on the user's part. No attempt has been made to force L^AT_EX to provide for every HTML-related possibility, and HTML cannot exactly render every possible L^AT_EX concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the HTML conversion.

Several “modern” features of HTML5, css3, and svg are employed to allow a fairly feature-rich document without relying on the use of JAVASCRIPT. Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native L^AT_EX package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in L^AT_EX, `lwarp` has some advantages over other methods of HTML conversion. T_EX itself is still used, allowing a wider range of T_EX trickery to be understood. Lua expressions are still available with LuaT_EX. Entire categories of L^AT_EX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of PDF output may be automatically converted to svg images while using the same font and spacing as the original print document, directly supporting Tikz and picture. Numerous packages are easily adapted for HTML versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent CTAN updates, CTAN topics, mention in other packages, support by other HTML conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the HTML output to suit the creation of EPUB documents, and for modifying the HTML output to ease import into a word processor.

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating HTML output, svg files are used in place of PDF. Other formats such as PNG and JPG are used as-is.

¹An amazing number of decades-old packages are still in use today.

svg images may be used for math, and are also used for picture, Tikz, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by <alt> tags holding the LATEX source for the expression, allowing it to be copy/pasted into other documents.³ Custom LATEX macros may be used as-is in math expressions, since the math is evaluated entirely inside LATEX. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using SVG images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ lwarp maintains LATEX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a LATEX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarp automatically generates the extra files necessary for the HTML conversion, such as css and .xdy files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, <sourcename>-html.tex, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, lwarp first looks to see if it has its own modified version to use instead of the standard LATEX version. These lwarp-packagename.sty files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over LATEX for sharing math. The author has no particular opinion on the matter, except to say that in this case LATEX is much easier to implement!

⁴One SVG image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

| | |
|-----------------------|---|
| package | L ^A T _E X package. |
| <i>program</i> | Program's executable name. |
| <i>option</i> | Program or package option. |
| filename | File name in the operating system. |
| BRAND NAME | Proper name for a program, operating system, etc. |
| commands | Commands to be entered by the user. |
| code | Program code. |
| \macro | L ^A T _E X macro. |
| environment | L ^A T _E X environment. |
| counter | L ^A T _E X counter. |
| boolean | L ^A T _E X boolean. |
| <element> | HTML element. |
| attribute | HTML attribute. |
| User Interface | A user-interface item. |
| ACRO | Acronym. |

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

Prog Lwarp Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

name: Supported as-is.

name: Modified to work with HTML output, and perhaps also as print output in `svg` math or `lateximage` environments.

name: Emulated for HTML output.

name: Ignored for HTML output, but provides source-level compatibility.

MJ: Supported as-is for MATHJAX, subject to limitations.

MJ: Emulated for MATHJAX using custom macros, subject to limitations.

MJ: Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L^AT_EX lwarp package — Supported features

| Category | Status and supported features. |
|--|--|
| Engines: | DVI L ^A T _E X, PDF L ^A T _E X, XeL ^A T _E X, LuaL ^A T _E X, upL ^A T _E X |
| L ^A T _E X compiling: | <i>latexmk</i> , <i>make</i> , etc. |
| External compiling: | <i>perltx</i> , <i>pythontex</i> , sympytex |
| Classes: | article, book, report, scrartcl, scrbook, scrreprt, memoir, CJK-related as listed below. |
| Koma-script: | scrextend , <i>scrhack</i> , scrlayer . Others as listed below. |
| Memoir: | memhfixc |
| Beamer: | beamerarticle , but not the beamer class. |
| Languages: | babel , cjkpunct , <i>impnattypo</i> , luavlna , polyglossia , xeCJK , xevlna . |
| Chinese: | CT _E X, ctex , upzhkinsoku , xpinyin , zhlineskip , zhspacing . |
| Japanese: | upL ^A T _E X, LuaT _E X-ja, gentombow, lltjext , plarray , plarydshln , plautopatch , plexit , plexarray , plexitarydshln , plextcolortbl , plextdelarray , <i>pxatbegshi</i> , <i>pxeveryshi</i> , <i>pxftnright</i> , pxgentombow , <i>pxjahyper</i> , pxpdfpages , pxpgfrcs , pxpgfmark , tascmac , zxjatype . bxjsarticle and related, ltjsarticle and related, luatexja , luatexja-fontspec , ujarticle and related, utarticle and related. |

l warp Supported Functions — continued

| Category | Status |
|-------------------------------------|--|
| Korean: | <code>kotex</code> , <code>luatexko</code> , <code>xetexko</code> . |
| Page layout: | 2in1, 2up, a4, a4wide, a5comb, addlines, anysize, <code>atbegshi</code> , balance, blowup, booklet, bophook, boundddvi, bxpapersize, canoniclayout, centerlastline, <code>changelayout</code> , <code>changepage</code> , chngpage, clrdblpg, continue, draftcopy, draftfigure, draftwatermark, ebook, everyshi, <code>fancyhdr</code> , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, <code>grid-system</code> , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, <code>parallel</code> , <code>parcolumns</code> , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdflandscape, pdfprivacy, preview, <code>ragged2e</code> , returngrid, rmpage, <code>scrlayer-scrpage</code> , <code>scrpage2</code> , <code>setspace</code> , selectp, textarea, threadcol, thumb, thumbs, titleps, toccenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout. |
| Sectioning: | Adds <code>FileDepth</code> for splitting the <code>HTML</code> output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. <code>anonchap</code> , <code>bsheaders</code> , <code>decorule</code> , <code>fncychap</code> , <code>froufrou</code> , <code>hypbmsec</code> , <code>indentfirst</code> , <code>quotchap</code> , <code>section</code> , <code>sectionbreak</code> , <code>secdot</code> , <code>sectsty</code> , <code>titlesec</code> , <code>tocvsec2</code> . |
| Table of contents, figures, tables: | Supported, with hyperlinks. <code>etoc</code> , <code>minitoc</code> , <code>multitoc</code> , <code>shorttoc</code> , <code>tableof</code> , <code>titletoc</code> , <code>tocbasic</code> , <code>tocbibind</code> , <code>tocdata</code> , <code>tocloft</code> , <code>tocstyle</code> , <code>tocvsec2</code> . |
| Title page: | <code>\maketitle</code> , <code>titlepage</code> , <code>authblk</code> , <code>authoraftertitle</code> , <code>titling</code> . |
| Front & back matter: | <code>abstract</code> , <code>appendix</code> . |
| Indexing: | <code>makeindex</code> , <code>xindy</code> , and <code>xindex</code> are supported, with hyperlinks. <code>gindex</code> , <code>hvindex</code> , <code>idxlayout</code> , <code>imakeidx</code> , <code>index</code> , <code>makeidx</code> , <code>repeatingindex</code> , <code>splitidx</code> , <code>varindex</code> , <code>xindex</code> . |
| Glossary: | <code>gloss</code> , <code>glossaries</code> and <code>xindy</code> , <code>nomencl</code> . |
| Bibliography: | <code>babelbib</code> , <code>bibtopic</code> , <code>backref</code> , <code>biblatex</code> , <code>bibunits</code> , <code>chapterbib</code> , <code>cite</code> , <code>citeref</code> , <code>collref</code> , <code>drftcite</code> , <code>hypernat</code> , <code>jurabib</code> , <code>mcite</code> , <code>mciteplus</code> , <code>multibib</code> , <code>natbib</code> , <code>notes2bib</code> , <code>splitbib</code> , <code>showtags</code> . |

l warp Supported Functions — continued

| Category | Status |
|-------------------|--|
| Cross-references: | bookmark, breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , variorref , xcite , xr , xr-hyper , xurl , zref . |
| Margin notes: | marginal, marginfit, marginfix, scrlayer-notecolumn , versonotes . |
| Footnotes: | Adds <code>FootnoteDepth</code> to print footnotes at section breaks. MATHJAX emulation for <code>\footnote</code> , and also as marked in the following: bigfoot , dblfnote , endheads , endnotes^{MJ} , enotez^{MJ} , fixfoot , fnbreak , fnpara , fnpct , fnpos , footmisc , footnote , footnotebackref , footnoterange , footnpag , manyfoot , marginnote^{MJ} , nccfoots^{MJ} , pagenote^{MJ} , parnotes^{MJ} , pdfcolfoot , pfnote , sepfootnotes , sidenotes^{MJ} , tablefootnote . |
| Math: | Converted to SVG images with HTML <code><alt></code> tags containing the L ^A T _E X source for the math expression. MATHJAX supported as an alternative. amsmath^{MJ} : $\mathcal{A}\mathcal{M}\mathcal{S}$ environments are supported. User-defined macros are available during conversion, due to native L ^A T _E X processing. |
| Theorems: | Native L ^A T _E X theorems, amsthm , apxproof , ntheorem , shadethm , theorem , thmbox , thmtools . |

l warp Supported Functions — continued

| Category | Status |
|--|--|
| Additional math: | Math fonts via SVG images, <code>accents</code> ^{MJ} , <code>amscd</code> ^{MJ} , <code>amscdx</code> , <code>autobreak</code> ^{MJ} , <code>autonum</code> , <code>backnaur</code> ^{MJ} , <code>bm</code> ^{MJ} , <code>braket</code> ^{MJ} , <code>breqn</code> ^{MJ} , <code>bussproofs</code> ^{MJ} , <code>cases</code> ^{MJ} , <code>centernot</code> ^{MJ} , <code>cmbright</code> ^{MJ} , <code>colonequals</code> ^{MJ} , <code>decimal</code> ^{MJ} , <code>delarray</code> , <code>DotArrow</code> ^{MJ} , <code>dotlessi</code> ^{MJ} , <code>dotlessj</code> ^{MJ} , <code>esvect</code> ^{MJ} , <code>extarrows</code> ^{MJ} , <code>fixmath</code> ^{MJ} , <code>fouridx</code> ^{MJ} , <code>fourier</code> ^{MJ} , <code>guass</code> , <code>hhtensor</code> ^{MJ} , <code>icomma</code> ^{MJ} , <code>isomath</code> ^{MJ} , <code>jkmath</code> , <code>kpfnts</code> ^{MJ} , <code>kpfnts-otf</code> ^{MJ} , <code>leftidx</code> ^{MJ} , <code>libertinust1math</code> ^{MJ} , <code>mathalpha</code> ^{MJ} , <code>mathastext</code> ^{MJ} , <code>mathcomp</code> ^{MJ} , <code>mathdesign</code> ^{MJ} , <code>mathdots</code> ^{MJ} , <code>mathfixs</code> ^{MJ} , <code>mathpazo</code> ^{MJ} , <code>mathptmx</code> ^{MJ} , <code>mathpunctspace</code> ^{MJ} , <code>mathspec</code> ^{MJ} , <code>mathtools</code> ^{MJ} , <code>mattens</code> ^{MJ} , <code>maybemath</code> ^{MJ} , <code>mdwmath</code> ^{MJ} , <code>mismath</code> ^{MJ} , <code>mletright</code> ^{MJ} , <code>multiobjective</code> ^{MJ} , <code>nccmath</code> ^{MJ} , <code>nicematrix</code> ^{MJ} , <code>noitcrl</code> ^{MJ} , <code>newpxmath</code> ^{MJ} , <code>newtxmath</code> ^{MJ} , <code>newtxsf</code> ^{MJ} , <code>pb-diagram</code> , <code>pxfonts</code> ^{MJ} , <code>reszegather</code> ^{MJ} , <code>rmathbr</code> ^{MJ} , <code>scalerel</code> ^{MJ} , <code>shuffle</code> ^{MJ} , <code>skmath</code> ^{MJ} , <code>stackrel</code> ^{MJ} , <code>statex2</code> ^{MJ} , <code>statistics</code> , <code>statmath</code> ^{MJ} , <code>subsubscripts</code> ^{MJ} , <code>tensind</code> , <code>tensor</code> ^{MJ} , <code>textualcomma</code> ^{MJ} , <code>txfonts</code> ^{MJ} , <code>txgreeks</code> ^{MJ} , <code>unicode-math</code> ^{MJ} , <code>upgreek</code> ^{MJ} , <code>ushort</code> ^{MJ} , <code>witharrows</code> ^{MJ} , <code>xfakebold</code> ^{MJ} , <code>xy</code> . Many others work as-is. |
| Display math with <code>\displaymathother</code> : | Complicated math objects in display math, such as <code>tikz-cd</code> , etc. |
| Units and fractions: | <code>nicefrac</code> ^{MJ} , <code>Slunits</code> ^{MJ} , <code>siunitx</code> ^{MJ} , <code>units</code> ^{MJ} , <code>unitsdef</code> , <code>xfrac</code> ^{MJ} . |
| Floats: | Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> . |
| Tabular: | <code>tabular</code> environment, <code>array</code> ^{MJ} , <code>arydshln</code> ^{MJ} , <code>bigdelim</code> ^{MJ} , <code>bigstrut</code> ^{MJ} , <code>booktabs</code> ^{MJ} , <code>colortbl</code> ^{MJ} , <code>ctable</code> , <code>dcolumn</code> , <code>diagbox</code> , <code>hhline</code> ^{MJ} , <code>longtable</code> , <code>ltable</code> , <code>lxtabular</code> , <code>multirow</code> ^{MJ} , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> . |

l warp Supported Functions — continued

| Category | Status |
|--|--|
| Graphics: | <code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports <code>width</code> , <code>height</code> , <code>origin</code> , <code>angle</code> , and <code>scale</code> tags, and adds <code>class</code> . References to PDF files are changed to SVG, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an SVG image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsf</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-imagelabels</code> , <code>xy</code> |
| <code>xcolor</code> : | Full package color names, any color models, and mixing. <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility. |
| Lists: | Standard L ^A T _E X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> . |
| Environments: | Standard L ^A T _E X environments. |
| Paragraphs, <code>minipage</code> , <code>\parbox</code> : | Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>fancypar</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> . |
| Quotations: | <code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> . |
| Verbatim: | <code>fancyvrb</code> , <code>fverextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> . |
| Frames: | <code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox</code> ^{MJ} , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox</code> ^{MJ} , <code>verbbars</code> . |
| Multi-columns: | <code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> . |
| Margins: | <code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> . |
| Line numbering: | <code>fnlineno</code> , <code>lineno</code> . |

l warp Supported Functions — continued

| Category | Status |
|---------------------------|--|
| Direct formatting: | \emph, \textsuperscript, \textbf, etc are supported. \bfseries, etc. are only supported in some cases. <code>cancel</code> ^{MJ} , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>relsize</code> ^{MJ} , <code>scalefnt</code> , <code>seqsplit</code> ^{MJ} , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> . |
| Acronyms: | <code>acro</code> , <code>acronym</code> . |
| Ordinals: | <code>engord</code> , <code>fmtcount</code> , <code>nth</code> . |
| Text ligatures: | Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly. |
| Horizontal space: | HTML output for thin-unbreakable, unbreakable, \enskip, \quad, \qquad, \hspace. |
| Rules: | \rule with width, height, raise, text color. |
| HTML reserved characters: | \&, \textless, and \textgreater are converted to HTML entities. |
| Fonts: | Used as-is. Appear in SVG math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssext-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssext-cfr</code> . Also see the math section for math and MATHJAX support for math font packages. |
| Symbols: | Native LATEX diacriticals, <code>academicons</code> , <code>amssymb</code> ^{MJ} , <code>bbding</code> , <code>ccicons</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> ^{MJ} , <code>latexsym</code> ^{MJ} , <code>marvosym</code> , <code>metabolo</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> ^{MJ} , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> . |
| Files: | <code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> . |

l warp Supported Functions — continued

| Category | Status |
|--------------------------|---|
| Science and engineering: | algorithm2e, algorithmicx, ar ^{MJ} , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, econometrics ^{MJ} , elements, engtlc ^{MJ} , fast-diagram, ghsystem, hepnicenames, heppennames, hepunits ^{MJ} , isotope ^{MJ} , karnaughmap, karnaugh-map, keystroke, listings, listingsutf8, linop, menukeys, mhchem ^{MJ} , minted, pgfgnatt, phfqt, physics ^{MJ} , physunits ^{MJ} , plimsoll ^{MJ} , qcircuit, register, simplebnf, simpler-wick, slashed ^{MJ} , steinmetz ^{MJ} , structmech, struktex, syntaxdi, tikz-karnaugh, tikzcodeblocks, venndiagram |
| Arts and humanities: | foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano |
| Academic: | academicons, classicthesis, doi, doipubmed, orcidlink ^{MJ} , termcal |
| Admonitions: | awesonebox, notes. |
| Editorial: | changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment ^{MJ} , pdfmarginpar, todo, todonotes, tram, xchangebar. |
| Accessibility: | accessibility ^{MJ} , accsupp ^{MJ} , accessibility ^{MJ} , pdfcomment ^{MJ} , repltext ^{MJ} , tagpdf. |
| Package handling: | catoptions. |
| Debug: | chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, mwe, refcheck, srcltx, srctex, vpe, xbmks. |
| Working as-is: | Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering. |

3 Alternatives

Summarized below are several other ways to convert a L^AT_EX or other document to HTML. Where an existing L^AT_EX document is to be converted to HTML, lwarf may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

Cls `internet` The closest to lwarf in design principle is the `internet` class by Andrew Stacey—an interesting project which directly produces several versions of markdown, and also HTML and EPUB. <https://github.com/loopspace/latex-to-internet>

3.2 TEX4HT

Prog `TeX4ht` <http://tug.org/tex4ht/>
Prog `htlatex`

This system uses native L^AT_EX processing to produce a DVI file containing special commands, and then uses additional post-processing for the HTML conversion by way of numerous configuration files. In some cases lwarf provides a better HTML conversion, and it supports a different set of packages. TeX4ht produces several other forms of output beyond HTML, including ODT and a direct path to EPUB, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of L^AT_EX syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog `Hevea` **H^Ev^Fa:** <http://hevea.inria.fr/> (not on CTAN)
Prog `TtH` **T_TH:** <http://hutchinson.belmont.ma.us/tth/>
Prog `GELLMU` **GELLMU:** <http://www.albany.edu/~hammond/gellmu/>
Prog `LaTeXML` **L^ATeXML:** <http://dlmf.nist.gov/LaTeXML/>
Prog `Plastex` **PlasTeX:** <https://github.com/tiarno/plastex>
Prog `LaTeX2HTML` **L^ATeX2HTML:** <http://www.latex2html.org/>
and <http://ctan.org/pkg/latex2html>.
Prog `TeX2page` **TeX2page:** <http://ds26gte.github.io/tex2page/index.html>

Finally, GladTeX may used to directly insert L^AT_EX math into HTML:

Prog `GladTeX` **GladTeX:** <http://humenda.github.io/GladTeX/>

3.4 ASCII DOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes LATEX and HTML.

Prog AsciiDoc **Asciidoc:** <http://asciidoc.org/> (More active.)

Prog AsciiDoctor **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 ASCIIDOCTOR-LATEX

The Asciidoc-LaTeX project is developing additional LATEX-related features.

Asciidoc-LaTeX:

<http://www.noteshare.io/book/asciidoc-latex-manual>

<https://github.com/asciidoc/asciidoc-latex>

3.5 PANDOC

Prog Pandoc A markup system which also reads and writes LATEX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Prog Word It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a LATEX-ish input syntax, unicode math fonts, and high-quality output, and also generate HTML with varying success. See recent developments in MICROSOFT® *Word*® and LIBREOFFICE™ *Writer*.

3.7 Commercial systems

Prog Adobe Likewise, several professional systems exist whose abilities have been advancing in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE® *FrameMaker*®, ADOBE *InDesign*®, and MADCAP *Flare*™.

Prog InDesign

Prog Flare

Prog Madcap

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to

require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, L^AT_EX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L^AT_EX is comparably easy to learn, while L^AT_EX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L^AT_EX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L^AT_EX back end, yielding high-quality results especially when the L^AT_EX template is adjusted, but they lose the ability to use L^AT_EX macros and other L^AT_EX source-document features.

The effort required to customize the output of each markup system varies. For print output, L^AT_EX configuration files are usually used. For HTML output, a css file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarp, css is used, and much HTML output is adjusted through the usual L^AT_EX optional macro parameters, but further customization may require patching L^AT_EX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The lwarf package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the lwarf package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by lwarf to create indexes. On a MiK^TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L^AT_EX code. On a MiK^TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPPLEER PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and MiK^TE_X provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For MACOS®, see <https://brew.sh/>, install *Homebrew*, then

Enter ⇒ **brew install poppler**

For WINDOWS, see Mik^TE_X *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:

<http://blog.alivate.com.au/poppler-windows/>

***Perl*:**

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the lwarf package

There are several ways to install lwarf. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

Enter ⇒ `kpsewhich lwarf.sty`

If a path to `lwarf.sty` is shown, then lwarf is already installed and you may skip to the next section.

TeX Live: If using a TeX Live distribution, try installing via `tlmgr`:

Enter ⇒ `tlmgr install lwarf`

MiKTeX:

1. For newer versions of MiKTeX, install or update lwarf using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarf the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarf, use *MiKTeX Update (Admin)*.
3. Either way, also update the package `miktex-misc`, which will install and update the `lwarpmk` executable.

Operating-system package: The operating-system package manager may already have lwarf, perhaps as part of a set of TeX-related packages.

CTAN TDS archive: lwarf may be downloaded from the Comprehensive TeX Archive:

1. See <http://ctan.org/pkg/lwarf> for the lwarf package.
2. Download the TDS archive: `lwarf.tds.zip`
3. Find the TeX local directory:

TeX Live:

Enter ⇒ `kpsewhich -var-value TEXMFLOCAL`

MiKTeX:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

`/usr/local/texlive/texmf-local/`

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

Enter ⇒ `mktexlsr`

— or —

Enter ⇒ `texhash`

Or, for Windows MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of TeX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the l warp package.
2. Download the zip archive l warp.zip into your own l warp directory.
3. Unpack l warp.zip.
4. Locate the contents l warp.dtx and l warp.ins
5. Create the .sty files:
Enter ⇒ **pdflatex l warp.ins**
6. Create the documentation:

```
pdflatex l warp.dtx (several times)
makeindex -s gglo.ist -o l warp.gls l warp.glo
makeindex -s gind.ist l warp.idx
pdflatex l warp.dtx (several times)
```

7. Copy the .sty files somewhere such as the T E X Live local tree found in the previous CTAN TDS section, under the subdirectory:
`<texlocal>/tex/latex/local/l warp`
 8. Copy l warp_baseline_marker.png and l warp_baseline_marker.eps to the same place as the .sty files.
 9. Copy the documentation l warp.pdf to a source directory in the local tree, such as:
`<texlocal>/doc/local/l warp`
 10. Renew the cache:
Enter ⇒ **mktexlsr**
— or —
Enter ⇒ **texhash**
- Or, for WINDOWS MiK T E X, start the program called *MiK T E X Settings (Admin)* and click on the button called **Refresh FNDB**.
11. See section 4.2.1 to generate your local copy of *l warpmk*.
 12. Once the local version of l warpmk.lua is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN .dtx and .ins files: The .dtx and .ins files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant *.sty and l warpmk.lua files may be used as-is, so long as they are in the same directory as the document source. The files l warp_baseline_marker.png and l warp_baseline_marker.eps must also be copied as well. This approach is especially useful if you would like to temporarily test l warp before deciding whether to permanently install it.

Just testing!

4.2 Installing the *l warpmk* utility

(Note: If *l warpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the l warp package is installed, you may need to setup the *l warpmk* utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK_TE_X, try updating the *miktex-misc* package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file *lwarpmk.lua*, which should be in the *scripts* directory of the TDS tree. On a T_EX Live or MiK_TE_X system you may use

Enter ⇒ **kpsewhich lwarpmk.lua**

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the T_EX Live binaries:

Enter ⇒ **kpsewhich -var-value TEXMFROOT**

This will be something like:

/usr/local/texlive/<year>

The binaries are then located in the *bin/<arch>* directory under the root:

/usr/local/texlive/<year>/bin/<architecture>/

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to *lwarpmk.lua*:

Enter ⇒ **ln -s <pathtolwarpmk.lua> lwarpmk**

- (c) Make the link executable:

Enter ⇒ **chmod 0755 lwarpmk**

WINDOWS T_EX Live: Create a new *lwarpmk.exe* file:

- (a) Locate the T_EX Live binaries as shown above for UNIX.

- (b) In the binaries directory, make a *copy* of *runscript.exe* and call it *lwarpmk.exe*. This will call the copy of *lwarpmk.lua* which is in the *scripts* directory of the distribution.

WINDOWS MiK_TE_X: Create a new *lwarpmk.bat* file:

- (a) Locate the MiK_TE_X binaries. These will be in a directory such as:

C:\Program Files\MiK_TE_X 2.9\miktex\bin\x64

In this directory you will find programs such as *pdflatex.exe* and *makeindex.exe*.

- (b) Create a new file named *lwarpmk.bat* containing:

*texlua "C:\Program Files\MiK_TE_X 2.9\scripts\lwarplwarp.lua" %**

This will call the copy of *lwarpmk.lua* which is in the *scripts* directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `l warp` package:

```
\usepackage[lwarpmk]{l warp}
```

2. When the tutorial is compiled with `pdflatex`, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

- (a) Make `lwarpmk.lua` executable:

Enter ⇒ `chmod 0755 lwarpmk.lua`

- (b) Compile documents with

Enter ⇒ `./lwarpmk.lua html`

Enter ⇒ `./lwarpmk.lua print`

etc.

- (c) It may be useful to rename or link to a version without the `.lua` suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

Enter ⇒ `texlua lwarpmk.lua html`

Enter ⇒ `texlua lwarpmk.lua print`

etc.

Or:

Enter ⇒ `lwarpmk html`

Enter ⇒ `lwarpmk print`

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 81.

```
Enter ⇒ luatex --version
Enter ⇒ xindy --version
Enter ⇒ latexmk --version
Enter ⇒ perl --version
Enter ⇒ pdfcrop --version
Enter ⇒ pdftotext -v
Enter ⇒ pdfseparate --version
Enter ⇒ pdftocairo -v
```

To install *xindy*, *latexmk*, and *pdfcrop*:

The TeX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TexLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the *CTAN* archive:

<http://ctan.org/pkg/xindy>
<http://ctan.org/pkg/latexmk>
<http://ctan.org/pkg/pdfcrop>

Prog [requirement] pdftotext **To install the POPPLER utilities to a UNIX/LINUX system:**

Prog [requirement] pdfseparate
 Prog [requirement] pdftocairo
 The tools from the POPPLER project should be provided by your operating system's package manager.

To install the POPPLER utilities to a MACOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

If using MikTeX, install a *miktex-poppler-bin-** package. Otherwise:

1. See table 3 on page 81.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfcrop* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:
 C:\Users\<myname>\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
 Be sure to include \bin.
9. Click **Ok** when done.

Prog [requirement] perl **To install PERL to a WINDOWS machine:**

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:
 C:\Strawberry\perl\bin
 Be sure to include \bin.
4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an `lwarp` document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.
- File `tutorial.tex`
2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in fig. 1, which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the lwarp documentation directory:

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

⚠ **Bad formatting!**

When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a Unix text file.

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`
(several times)

(`xelatex` or `lualatex` may be used as well. `lwarp` also supports DVI `latex` for use with .eps images.)
4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in table 4. These files are created by the `lwarp` package.

(Two of the new files are configuration files for the helper program `lwarpmk`. Whenever a print version of the document is created, the configuration files for `lwarpmk` are updated to record the operating system, L^AT_EX engine (`latex`, `pdflatex`, `xelatex`, or `lualatex`), the filenames of the source code and HTML output, and whether the additional helper program `latexmk` will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}          % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
%   HomeHTMLfilename=index,      % Filename of the homepage.
%   HTMLfilename={node-},        % Filename prefix of other pages.
%   IndexLanguage=english,       % Language for xindy index, glossary.
%   latexmk,                   % Use latexmk to compile.
%   OSWindows,                 % Force Windows. (Usually automatic.)
%   mathjax,                   % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}           % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2}       % Include subsections in the \TOC.
\setcounter{secnumdepth}{2}     % Number down to subsections.
\setcounter{FileDepth}{1}       % Split \HTML files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1}    % Include subsections in the side\TOC
\HTMLTitle{Webpage Title}     % Overrides \title for the web page.
\HTMLAuthor{Some Author}      % Sets the HTML meta author tag.
\HTMLLanguage{en-US}          % Sets the HTML meta language.
\HTMLDescription{A description.}% Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSfilename{lwarp_sagebrush.css}
```

```

\begin{document}

\maketitle % Or titlepage/titlingpage environment.

% An article abstract would go here.

\tableofcontents % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math: $r = r_0 + vt - \frac{1}{2}at^2$  

followed by display math:  

\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

tutorial.pdf: The PDF output from L^AT_EX. The print version of the document.

tutorial_html.tex: A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.

Auxiliary files: The usual L^AT_EX files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.

lwarpmk.conf: A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.

tutorial.lwarpmkconf: Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.

.css files: lwarp.css, lwarp_formal.css, lwarp_sagebrush.css These files are standard for lwarp, and are not meant to be modified by the user.

sample_project.css: An example of a user-customized css file, which may be used for project-specific changes to the lwarp defaults.

lwarp.ist: Used by lwarp while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.

lwarp.xdy: Used by lwarp while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.

lwarp_one_limage.txt: For WINDOWS only. Used to process SVG images in the background. Copied to lwarp_one_limage.cmd when images are generated.

lwarp_mathjax.txt: Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see \MathJaxFilename instead.

comment_*.cut: Temporary files used by lwarp to conditionally process blocks of text. These files may be ignored.

When the *lwarpmk* option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

 **Enable *lwarpmk***

1. If you have not yet done so, add `\usepackage{lwarf}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.
2. Re-compile the print version:

Enter ⇒ **`lwarpmk print`**

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

3. Make a small change in the original document, such as adding a space character.
4. Recompile again.

Enter ⇒ **`lwarpmk print`**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

5. Force a recompile to occur.

Enter ⇒ **`lwarpmk again`**

Enter ⇒ **`lwarpmk print`**

lwarpmk again updates the date code for the file, triggering a recompile the next time the document is made.⁵

6. Process the index.⁶ ⁷

Enter ⇒ **`lwarpmk printindex`**

7. Recompile again to include the index.

Enter ⇒ **`lwarpmk print`**

8. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **`lwarpmk print1`**

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexpmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command `lwarpmk printglossary` is also available to process a glossary produced with the *glossaries* package. See section 8.6.12.

⁷Also see section 8.6.15 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarf}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.
2. Compile the HTML version:

Enter ⇒ **lwarpmk html**

- (a) *lwarpmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

3. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math

Note that math is still displayed as its alt tag, which is the plain-text L^AT_EX source, until the images of the math expressions have been generated. Math may be displayed as SVG images or by a MATHJAX script, as seen in sections 5.4 and 5.5.

4. Force a recompile:

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print**

5. Process the HTML index and recompile:¹⁰¹¹

Enter ⇒ **lwarpmk htmlindex**

Enter ⇒ **lwarpmk html**

`_Index.html` is updated for the new L^AT_EX index.

6. Reload the web page to see the added index.

7. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk html1**

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

¹¹Also see section 8.6.15 for index options.

5.4 Generating the svg images

math as svg images By default lwarf represents math as svg images, with the L^AT_EX source included in alt attributes. In this way, the math is displayed as it was drawn by L^AT_EX, and the L^AT_EX source may be copied and pasted into other documents.

picture and Tikz lwarf uses the same mechanism for picture and Tikz environments.

1. Create the svg images:

Enter ⇒ **lwarpmk limages**

Enter ⇒ **lwarpmk html**

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the L^AT_EX source.

⚠️ adding/removing

When a math expression, picture, or Tikz environment is added or removed, the svg images must be re-created by entering **lwarpmk limages** to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but display math and objects such as Tikz may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, **lwarpmk** verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, **lwarpmk** usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L^AT_EX recompile warnings.

⚠️ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠️ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

Expressing math as svg images has the advantage of representing the math exactly as L^AT_EX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, lwarf uses an MD5 hash on its L^AT_EX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as picture and Tikz require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

[math with MATHJAX](#) Math may also be represented using the MATHJAX JAVASCRIPT project.

1. In the tutorial's source code, uncomment the `mathjax` package option for `l warp`:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

Enter ⇒ `l warpmk html`

3. Reload the math page.

⚠ MATHJAX requirements

MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the LATEX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as LATEX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}
...
\CSSFilename{lwarp_formal.css}
...
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSFilename{lwarp_sagebrush.css}
```

See section [7.7](#) for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section [7.6](#) for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the `latexmk` option for the `lwarp` package:

`latexmk, % Use latexmk to compile.`

2. Recompile the printed version of the document.

Enter ⇒ **`lwarpmk print`**

`lwarp` updates its own configuration files (`lwarpmk.conf` and `tutorial.lwarpmkconf`) whenever the printed version of the document is compiled. These configuration files remember that `lwarpmk` should use `latexmk` to compile the document.

3. Recompile the document.

Enter ⇒ **`lwarpmk print`**

and/or

Enter ⇒ **`lwarpmk html`**

Changes are detected by comparing checksums rather than modification times, so `lwarpmk` again will not trigger a recompile, but `latexmk` has a much better awareness of changes than the `lwarpmk` utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

Enter ⇒ **`lwarpmk print1`**

and/or

Enter ⇒ **`lwarpmk html1`**

forced single-pass recompile

5.9 Using X_ELATEX or LuaLATEX

X_ELATEX or LuaLATEX may be used instead of LATEX.

1. Remove the auxiliary files for the project:

Enter ⇒ **lwarfmk cleanall**

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

Enter ⇒ **xelatex tutorial.tex**

— or —

Enter ⇒ **lualatex tutorial.tex**

When the compile occurs, the configuration files for *lwarfmk* are modified to remember which TeX engine was used. X_ELATEX or LuaLATEX will be used for future runs of *lwarfmk*.

3. To recompile the document:

Enter ⇒ **lwarfmk print**

-and-

Enter ⇒ **lwarfmk html**

4. Also remember to update the indexes and recompile again:

Enter ⇒ **lwarfmk htmlindex**

Enter ⇒ **lwarfmk html**

Enter ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk print**

5.10 Using DVI LATEX

Traditional DVI LaTeX may also be used along with .eps image files. An SVG version of each image must also be provided. *lwarfmk* may be used to convert image formats.

To convert EPS files to PDF:

Enter ⇒ **lwarfmk epstopdf *.eps** (or a list of files)

To convert PDF files to SVG:

Enter ⇒ **lwarfmk pdftosvg *.pdf** (or a list of files)

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.11.1 `gloss` package

See section [8.6.11](#).

5.11.2 `glossaries` package

To process the glossary for the print version:

Enter ⇒ `lwarpmk printglossary`

⚠ (If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

Enter ⇒ `lwarpmk htmlglossary`

In each case, the document will have to be recompiled afterwards:

Enter ⇒ `lwarpmk html1`

Enter ⇒ `lwarpmk html`

Enter ⇒ `lwarpmk print1`

Enter ⇒ `lwarpmk print`

See section [8.6.12](#) to set options for processing glossaries.

5.12 Cleaning auxiliary files

To remove the auxiliary files .aux, .toc, .lof, .lot, .idx, .ind, .log, and .gl*, and a few others:

Enter ⇒ **lwarfmk clean**

5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the .pdf and .html files:

Enter ⇒ **lwarfmk cleanall**

5.14 Cleaning the images from the <project>-images directory

The <project>-images directory contains svg images automatically generated for inline and display math, tikz, etc. To remove all the images from the <project>-images directory:

Enter ⇒ **lwarfmk cleanimages**

5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. *pdftocairo* and *epstopdf* may be used one image at a time, but *lwarfmk* also provides a way to convert PDF or EPS images in bulk:

Enter ⇒ **lwarfmk epstopdf *.eps** (or a list of files)

Enter ⇒ **lwarfmk pdftosvg *.pdf** (or a list of files)

Be sure to always provide SVG files for HTML output.

5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

Enter ⇒ **lwarfmk pdftohtml [-p project]**

5.17 Processing multiple projects in the same directory

⚠ **xr, xr-hyper, xcite**

It is possible to have several projects in the same directory. *lwarfmk* has an optional parameter which is the document to compile.

To create each project:

Enter ⇒ **pdflatex project_a**

Enter ⇒ **pdflatex project_b**

Each project is given its own configuration file:

`project_a.lwarpmkconf`, `project_b.lwarpmkconf`

To compile each project with `lwarkmk`:

Enter ⇒ **lwarpmk print -p project_a**

Enter ⇒ **lwarpmk print -p project_b**

Enter ⇒ **lwarpmk html -p project_a**

Enter ⇒ **lwarpmk html -p project_b**

To generate each project's images:

Enter ⇒ **lwarpmk limages -p project_a**

Enter ⇒ **lwarpmk limages -p project_b**

To clean each project's images:

Enter ⇒ **lwarpmk cleanlimages -p project_a**

Enter ⇒ **lwarpmk cleanlimages -p project_b**

To clean each project's auxiliary files:

Enter ⇒ **lwarpmk cleanall -p project_a**

Enter ⇒ **lwarpmk cleanall -p project_b**

If using *bibtex*, for example, the HTML version must also be processed:

Enter ⇒ **bibtex project_a.html**

5.18 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

`lwarpmk pdftohtml [-p project]`

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.19 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 29, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css](#).

MATHJAX customization: See section 8.7.5, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with l warp:

1. Arrange the document in the following order:
 - (a) Declare the \documentclass.
 - (b) Load text fonts.
 - (c) Load inputenc or inputenx, fontenc, or fontspec.
 - (d) Load l warp.
 - (e) Load remaining packages.
2. Modify the document:
 - (a) If using named HTML files, in section names use paren math $\backslash(x+y\backslash)$ instead of dollar math $\$x+y\$$. (Dollar math works, but appears in the file-name.) Or, use a short name for the TOC entry without the math, or use \texorpdfstring from the hyperref package:


```
\section{Some math \texorpdfstring{\(1+2=3\)}{three}}
```
 - (b) Avoid using the \includegraphics scale option. Change:


```
\includegraphics[scale=<xx>]{...}
```

 to:


```
\includegraphics[width=<yy>\linewidth]{...}
```
 - (c) Possible changes to tabular environments include: * columns, multirow, longtable, supertabular, xtab, bigdelim. See section 8.10.1.
 - (d) If using braces in package options, such as with caption, see section 8.1.
 - (e) Possible option clashes with memoir. See section 8.13.
 - (f) If using indexes, see section 8.6.15.
 - (g) If using many indexes, glossaries, .aux files, etc., see section 8.6.15 regarding morewrites. If morewrites is already used, be sure to add the setup with allocate=10.
 - (h) Other changes as per Special cases and limitations, section 8.
3. Convert any PDF images to SVG. See section 8.8.
4. Manually compile the print version with *latex*, *pdflatex*, *lualatex*, or *xelatex*.
5. l warpmk print to finish the print version.
6. l warpmk html to create the HTML version.
7. l warpmk limages to create the SVG images of any SVG math, lateximage, Tikz, etc.

Need help?

See the General Index for “how-to”, and the Troubleshooting Index if something doesn’t work. A Troubleshooting section is also available. The Index of Objects contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

Table 5: Localization settings

Object names: L^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use \renewcommand to change these.

\abstractname: This macro is honored by lwarp.

\linkhomename: Displayed by the link to the homepage.

\linkpreviousname: Displayed by the link to the previous page

\linknextname: Displayed by the link to the next page.

\sidetocname: Displayed at the head of the sidetoc.

HTML settings: See table 8 and section 7.6 for details.

\HTMLLanguage: The language to declare for each web page.

\ImageAltText, \MathImageAltText, \PackageDiagramAltText, \AltTextOpen,
 \AltTextClose: The defaults used for HTML alt text for images. See section 7.2.

\CSSFilename: The name of the css file to use.

\MathJaxFilename: The name of the MATHJAX script to use.

Package options:

ImagesName and ImagesDirectory: These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

xindyStyle, xindyLanguage, xindyCodepage: When using *xindy*, these options may be set according to local use. See section 8.6.21.

pdftotextEnc: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. lwarp can use the HTML alt attribute for images, as described below. lwarp can also use the HTML title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. lwarp also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and lwarp assigns the math role for

svg math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well. See table 6.

7.3 Shell escape

| | | |
|-----|----------------|---|
| Opt | --shell-escape | Some documents require the use of an external program, which is allowed when using the --shell-escape command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, lwarp detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with <i>lwarpmk</i> . |
|-----|----------------|---|

7.4 Font and UTF-8 support

| | | |
|---|------------------------|---|
| ⚠ | type 3 bitmapped fonts | lwarp uses <i>pdftotext</i> to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as ae. The lwarp option pdftotextEnc may be useful in some situations. See section 7.5. |
|---|------------------------|---|

| | |
|--------------|--|
| vector fonts | While using DVI <i>latex</i> or PDF <i>pdflatex</i> , if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required. |
|--------------|--|

⚠ *pdflatex*

⚠ *DVI latex*

Pkg cm-super

To use the updated cm-super’s type 1 fonts instead of Computer Modern, install the cm-super font package.

Pkg lmodern To use Latin Modern instead, add

```
usepackage{lmodern}
```

to the preamble.

Pkg dejavu Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

| | |
|----------------------------------|--|
| <i>latex, pdflatex, T1, UTF8</i> | While using DVI <i>latex</i> or PDF <i>pdflatex</i> , lwarp automatically loads fontenc with T1 encoding. fontenc may be loaded with an additional encoding after lwarp. inputenc is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as latin1. See the next section regarding index encoding. |
|----------------------------------|--|

⚠ *xelatex, lualatex, fontspec* X_EL^AT_EX and L_UaL^AT_EX users must use the *fontspec* package. Do NOT use *fontenc*!

Place *fontspec* or *fontenc*, *xunicode*, and other font and UTF-8 related commands after the \documentclass command and before \usepackage{lwarp}.

⚠ package conflicts In some cases, a package conflict may require that a font package be loaded after lwarp, which should work as well:

Table 6: Accessibiliiy settings

\ImageAltText: The default HTML alt text for \includegraphics and \textrm{images}. Set with \renewcommand.

\includegraphics alt key: For \includegraphics, lwarp adds the alt key / value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple SVG math, lwarp places the L^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated SVG math, such as enclosed in \InlineMathOther / \InlineMathNormal, or \DisplayMathOther / \DisplayMathNormal, the HTML alt text will be set to \MathImageAltText. Set with \renewcommand.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by lwarp's MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which lwarp converts into SVG images. These are given alt text set to \PackageDiagramAltText. Set with \renewcommand.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

\ThisAltText may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining \AltTextOpen and \AltTextClose. Set with \renewcommand.

1. `documentclass{article/book/report}` comes first, followed by any of:
2. Font and UTF-8 related commands:

- For XeLaTeX or LuaLaTeX:

Pkg fontspec

ligatures

`l warp` sets the following to turn off TeX ligatures during the generation of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

- For pdflatex:

Pkg lmodern

Pkg fontenc

Pkg inputenc

Pkg inputenx

Pkg newunicodechar

File glyptounicode.tex

⚠ dotless j

Pkg cmap

Pkg mmap

Pkg textcomp

- (a) `\usepackage{lmodern}`, or other font-related packages
- (b) `\usepackage[T1]{fontenc}`
- (c) `\usepackage[utf8]{inputenc}`, or latin1, etc. Or use `inputenx`.
- (d) `\usepackage{newunicodechar}` along with related definitions.
- (e) To assist with the PDF-HTML conversion:
 - i. `\input glyptounicode.tex`
 - ii. `\input glyptounicode-cmr.tex` from the `pdfx` package
 - iii. `\pdfgentounicode=1`
- (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (`\j`):
 - `\usepackage{cmap} — or —`
 - `\usepackage{mmap} — or —`
 - `\usepackage[noTeX]{mmap}`
- (g) `\usepackage{textcomp}`

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `l warp`.

4. `\usepackage{l warp}` (section 7.5) is placed after any of the above, followed by:

5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using XeLaTeX or LuaLaTeX and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font's ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%  
...  
    Contextuals=AlternateOff,  
]
```

After `l warp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

⚠ UTF-8 locale

In some cases, an external program may require a UTF-8 “locale”. See section 9.9.

7.4.1 Indexes, glossaries, and encoding

lwarp supports *makeindex*, *xindy*, *xindex*, and *glossaries*, *gloss*, and *nomencl*.

See section 8.6.14 for indexing, and section 8.6.12 for the *glossaries* package.

7.5 lwarf package loading and options

lwarf supports book, report, and article classes, as well as the equivalent Koma-script classes and memoir, and various CJK-related classes and packages.

Load the lwarf package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarf, or later with

```
\lwarfsetup{<key=value, . . . >}
```

Pkg lwarf lwarf package options are as follows:

Opt mathsvg **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.
 Opt mathjax
 Default: mathsvg

Opt latexmk **latexmk**: Tells *lwarfmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarfmk* attempts to determine for itself whether to recompile. See section 7.6.

Opt dvips **dvips**: Tells *lwarfmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.
 Default: false

Opt dvipdfm **dvipdfm**: Tells *lwarfmk* to use *dvipdfm* to convert DVI output to PDF.
 Default: false

Opt dvipdfmx **dvipdfmx**: Tells *lwarfmk* to use *dvipdfmx* to convert DVI output to PDF.
 Default: false

Opt HomeHTMLFilename **HomeHTMLFilename**:

Default: \BaseJobname
 Filename of the homepage, without the ".html" suffix. Defaults to the \BaseJobname. A common setting is:

```
HomeHTMLFilename=index
```

filename underscores causing the homepage to be the file index.html. Underscores are allowed in HomeHTMLFilename and HTMLFilename options, but may need to be escaped elsewhere, such as when appearing in a list:

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

Opt HTMLFilename **HTMLFilename**: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.
 Default: <empty>

Opt ImagesName **ImagesName**: The prefix for the images automatically generated by lwarf for objects such as SVG math and lateximages.
 Default: image-

Opt ImagesDirectory **ImagesDirectory**: The directory for the images automatically generated by lwarf for
 Default: \jobname-images

Table 7: Lwarp package options

| Option | Description |
|--|---|
| mathsvg | Show math using SVG images. |
| mathjax | Show math using MATHJAX. |
| latexmk | Use <i>latexmk</i> for compiling documents. |
| dvips | Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents. |
| dvipdfm | Use <i>dvipdfm</i> to convert DVI documents. |
| dvipdfmx | Use <i>dvipdfmx</i> to convert DVI documents. |
| HomeHTMLFilename | The filename of the home page. |
| HTMLFilename | A prefix for the filenames of the remaining web pages. |
| ImagesName | A prefix for the filenames of generated images. |
| ImagesDirectory | The directory used to hold generated images. |
| PrintLatexCmd | The shell commands for lwarpmk print . |
| HTMLLatexCmd | The shell commands for lwarpmk html . |
| For indexing (section 8.6.15) and glossaries (section 8.6.12): | |
| makeindex | Use <i>makeindex</i> to generate indices. |
| makeindexStyle | Set a custom style for <i>makeindex</i> . |
| xindy | Use <i>xindy</i> to generate indices. |
| xindyStyle | Set a custom style for <i>xindy</i> . |
| xindyLanguage | The <i>xindy</i> language option used for index generation. |
| xindyCodepage | The <i>xindy</i> codepage option used for index generation. |
| xindex | Use <i>xindex</i> to generate indices. |
| xindexConfig | Set a custom configuration file for <i>xindex</i> . |
| PrintIndexCmd | Shell commands executed by lwarpmk printindex . |
| HTMLIndexCmd | Shell commands executed by lwarpmk htmlindex . |
| LatexmkIndexCmd | Shell commands executed by <i>latexmk</i> . |
| IndexRef | How to format index links. |
| GlossaryCmd | Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary . |
| Seldom necessary: | |
| OSWindows | Force compatibility with MS-WINDOWS. |
| pdftotextEnc | Set the encoding for <i>pdftotext</i> . |
| lwarpmk | Generate a local copy of <i>lwarpmk.lua</i> . |
| Used internally by lwarp: | |
| warpprint | Generate print output, and also generate configuration files. |
| warpHTML | Generate HTML output. |
| BaseJobname | The \jobname to use. Set to the \jobname of the printed version even while generating HTML. |

objects such as `svg` math and `lateximages`. By default, these images will appear in a directory named `<jobname>-images`, and the images will be named and numbered `image-<nn>`.

Opt `PrintLatexCmd` **PrintLatexCmd:** Sets the shell commands executed by `lwarpmk print`. If not specified, Default: `<automatic>` will automatically be set according to the detected LATEX engine and the use of `--shell-escape`.

Opt `HTMLLatexCmd` **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, Default: `<automatic>` will automatically be set according to the detected LATEX engine and the use of `--shell-escape`.

Opt `makeindex` **makeindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `makeindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.

Opt `makeindexStyle` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.20.
Default: `lwarf.ist`

Opt `xindy` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindy` when Default: `makeindex` generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.

Opt `xindyStyle` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.21.
Default: `lwarf.xdy`

Opt `xindyLanguage` **xindyLanguage:** If using an index or glossary, see section 29.
Default: `english`

Opt `xindyCodepage` **xindyCodepage:** If using an index, see section 29.
Default: `utf8`

Opt `xindex` **xindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindex` when Default: `makeindex` generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.

Opt `xindexConfig` **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, Default: `<empty>` see section 8.6.22.

Opt `PrintIndexCmd` **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not Default: `<automatic>` specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.

Examples:

```
makeindex -s lwarp.ist projectname.idx          (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx    (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

xindy

If specifying `PrintIndexCmd` manually, be sure to assign an `xindy` language and codepage with the `-L` and `-C` `xindy` options, as the `lwarp` `xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by `TEX`, written to a file, read from the file by `LuATEX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

Opt `HTMLIndexCmd` **HTMLIndexCmd:** Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.

filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx          (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx    (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an `xindy` language and codepage with the `-L` and `-C` `xindy` options, as the `lwarp` `xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

Opt `LatexmkIndexCmd` **LatexmkIndexCmd:** Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.15.

Example settings are similar to `PrintIndexCmd`, but without a filename:

| | |
|---|--|
| <code>makeindex -s lwarf.ist</code> <code>xindy -M lwarf.xdy -L english -C utf8</code> | <code>(makeindex)</code> <code>(xindy)</code> |
|---|--|

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings shown above. `lwarf`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `latextmk` uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠️ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an `xindy` language and codepage with the `-L` and `-C` `xindy` options, as the `lwarf` `xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt `IndexRef` **IndexRef:** Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such as `(link)` or `(*)` for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does not use `cleveref`, as the `lwarf` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as `(*)` instead of `??`.

⚠️ ??

If using `cref` (the default), and if a reference appears as `??` with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using `(*)` or similar yields a very compact index.

Opt `GlossaryCmd` **GlossaryCmd:** Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt `OSWindows` **OSWindows:** `lwarf` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

Opt `pdftotextEnc` **pdftotextEnc:** Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.

Opt `lwarpmk` **lwarpmk:** If you wish to have `lwarf` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 29.

The following options are used internally by `lwarf`, and usually are not used in the user's document:

Opt `warpprint` **warpprint** and **warpHTML:** Usually controlled by `lwarpmk`, and not set in the docu-

Opt `warpHTML`

ment. Select the `warpprint` option to generate print output (default), or the `warpHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warpHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

Opt BaseJobname **BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the
Default: `\jobname` `*_html.tex` file used to compile the HTML version. See section 29.

7.6 Customizing the HTML output

Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

⚠ Placement! Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ **lwarfmk clearall**

2. Recompile the print version in order to recreate the configuration files for *lwarfmk*:

Enter ⇒ **lwarfmk print**

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ **lwarfmk html**

Placed in the preamble before \begin{document}:

\HTMLFirstPageTop
Default: <empty>

\HTMLFirstPageTop: {⟨contents⟩} A user-definable custom action applied to the top of the home page. Useful for logos, etc. \LinkNext may be used to link to the next web page. Defaults empty. Ignored in print output.

\HTMLFirstPageBottom
Default: <empty>

\HTMLFirstPageBottom: {⟨contents⟩} A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. \LinkNext may be used to link to the next web page. Defaults empty. Ignored in print output.

\linkhomename
Default: Home

\linkhomename: Name of the link to the home page. Paragraphs are allowed. Redefine with \renewcommand.

\linkpreviousname
Default: Previous

\linkpreviousname: Name of the link to the previous page. Paragraphs are allowed. Redefine with \renewcommand.

\linknextname
Default: Next

\linknextname: Name of the link to the next page. Paragraphs are allowed. Redefine with \renewcommand.

Ctr tocdepth

tocdepth: Sectioning depth of the table of contents. See section 16 for a list of LATEX stack depths.

Ctr SideTOCDepth
Default: 1

SideTOCDepth: Sectioning depth of the sidetoc. Defaults to 1, causing the sidetoc to show sections but not subsections.

sidetoc

Each subpage of the website has its own small table of contents on the side (the “sidetoc”). Its depth is set by SideTOCDepth. This sidetoc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sidetoc at the top of the page, as well as a link back to **Home** at the top and bottom.

It is recommended to set:

SideTOCDepth=FileDepth

Table 8: HTML settings

| Macro/Cntr/Bool | Loc* | Description |
|-------------------------|------|--|
| \linkhomename | P | Name of the link to the homepage. |
| \linkpreviousname | P | Name of the link to the previous page. |
| \linknextname | P | Name of the link to the next page. |
| SideTOCDepth | P | Sectioning depth of the sidetoc. |
| \sidetocname | P | Name of the sidetoc. |
| FileDepth | P | Sectioning depth of the file splits. |
| CombineHigherDepths | P | Combine higher section levels. |
| FileSectionNames | P | Use section names for file names, else use numbers. |
| \FilenameLimit | P | Maximum length of the generated filenames. |
| FootnoteDepth | P | Sectioning depth of footnotes. |
| \abstractname | P | The name of the abstract. |
| \ImageAltText | PD | \includegraphics and other images' alt tag. |
| \ThisAltText {\text{}} | PD | Assigns an alt/title tag for the next image or link. |
| \MathImageAltText | PD | The SVG math image \teximage alt tag. |
| \PackageDiagramAltText | PD | The suffix for a package's \teximage alt tags. |
| \AltTextOpen | PD | Start an HTML alt tag. |
| \AltTextClose | PD | End an HTML alt tag. |
| \CSSFilename | PS | The css for the following files. |
| \MathJaxFilename | PS | The MATHJAX script for the following files. |
| \HTMLLanguage | PS | The HTML lang tag. |
| \HTMLTitle | PS | The homepage's <title>, overriding \title. |
| \HTMLTitleBeforeSection | PS | Set subpage <title>s to \HTMLTitle - sectionname |
| \HTMLTitleAfterSection | PS | Set subpage <title>s to sectionname - \HTMLTitle |
| \HTMLAuthor | PS | The HTML author meta tag, overriding \author. |
| \HTMLDescription | PS | The HTML description meta tag. |
| \HTMLFirstPageTop | P | Heading for the home page. |
| \HTMLFirstPageBottom | P | Footer for the home page. |
| \HTMLPageTop | PS | Heading for the other pages. |
| \HTMLPageBottom | PS | Footer for the other pages. |
| \HTMLnewcolumntype | D | \newcolumntype for HTML. |
| \IndexPageSeparator | P | Index page list separator. |
| \IndexRangeSeparator | P | Index page range separator. |
| FixSmallCaps | P | Set true if small caps rendered as all caps. |
| HTMLDebugComments | P | Boolean to generate HTML comments. |

* **P:** Preamble, **D:** Anywhere in the document. **S:** Before a section.

or

`SideTOCDepth=FileDepth+1`

⚠️ inaccessible pages

`\sidetocname`
Default: `Contents`

Ctr `FileDepth`
Default: -5



\sidetocname: Name of the sidetoc. Paragraphs are allowed. Redefine with `\renewcommand`.

FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:
`\setcounter{FileDepth}{-5}`
- To split the HTML file at `\section` depth, use:
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:
Place a `\tableofcontents` somewhere before the first section break (therefore in the “home page”), and set
`tocdepth>=FileDepth`

Bool `CombineHigherDepths`
Default: true

CombineHigherDepths: Combine a higher section with its first lower subsections, down to the `FileDepth`. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter `FileDepth` and the boolean `CombineHigherDepths`. Setting `FileDepth` to 0 splits the file at chapters, 1 at sections, etc. `CombineHigherDepths` controls whether to combine pages at levels higher than the chosen `FileDepth`, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set `tocdepth` and `SideTOCDepth` to allow access to each page of the website. Set `tocdepth` and `SideTOCDepth` to be greater than or equal to `FileDepth`.

⚠️ Inaccesible pages!

⚠️ Lost in an old page!

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (`lwarpmk cleanall`), change `FileDepth` and/or `CombineHigherDepths`, then finally recompile and renavigate to the desired page using the new file structure.

Bool `FileSectionNames`
Default: true

⚠️ Unique filename!

FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the `HTMLFilename` option is used as a prefix. See section [7.6.1](#) for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin sanitized. For example, `math` in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

`\FilenameLimit`
Default: 80

\FilenameLimit: The maximum length of the filenames generated by `lwarp`. “.html” is added to this length. Redefine with `\renewcommand`.

Ctr `FootnoteDepth`
Default: 3

FootnoteDepth: Determines where to place pending footnotes. 3 places foot-

notes before each break down to the \subsubsection level. 1 places footnotes before each \section break. Any pending footnotes are also placed at the bottom of each page before each file break.

Bool FixSmallCaps
Default: false

FixSmallCaps: Set true if SMALL CAPS are rendering in all caps (“SMALL CAPS”). May be required for some fonts (*erewhon*, *utopia*, *fbb*, et al.), and packages such as *embrac*.

Bool HTMLDebugComments
Default: false

HTMLDebugComments: Set true to generate HTML comments, such as which section or <div> is being opened or closed.

\abstractname
Default: Abstract

\abstractname: The name of the abstract. This may also be over-written by the *babel* package. Defaults to “Abstract”. Redefine with \renewcommand.

\IndexPageSeparator
Default: , ”

\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using *gindex*, this is set automatically to *gindex*’s \indexpagessep.

\IndexRangeSeparator
Default: “–”

\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using *gindex*, this is set automatically to *gindex*’s \indexrangesep.

Placed before \begin{document}, or before any sectioning command which causes a file break:

\CSSFilename
Default: lwarp.css

\CSSFilename: {*filename.css*} Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The css styles of the web pages are set by the \CSSFilename command. If \CSSFilename is not used, a default plain style is used to mimic printed LATEX output. *lwarp_sagebrush.css* is a semi-fancy colored style as shown in this tutorial. Change it to *lwarp_formal.css* for a more formal look, or comment out the \CSSFilename command to see the default. \CSSFilename may be used before each file break to set the css for individual pages of the website.

\MathJaxFilename
Default: lwarp_mathjax.txt

\MathJaxFilename: {*filename*} Sets the MATHJAX script file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. \MathJaxFilename may be used before each file break to set the script file for individual pages of the website.

\HTMLLanguage
Default: en-US

\HTMLLanguage: {*language*} The HTML file’s HTML lang meta tag. Defaults to en-US.

\HTMLTitle
Default: \thetitle

\HTMLTitle: {*title*} Overrides \title for the HTML header’s meta title. Defaults to \thetitle, which is set by \title, or empty otherwise. Unlike the author, \thetitle is set by \title even if not using the titling package.

\HTMLTitleBeforeSection
Default: \HTMLTitleBeforeSection

\HTMLTitleBeforeSection: Sets subpage <title> tags to show the website title followed by the section name.

| | |
|--------------------------------------|---|
| \HTMLTitleAfterSection | \HTMLTitleAfterSection: Sets subpage <title> tags to show the section name followed by the website title. |
| custom <title> | To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to: <pre>\def\theHTMLTitleSection{% \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection% }</pre> |
| \HTMLAuthor Default: \theauthor | \HTMLAuthor: {<author>} The HTML header's meta author. Defaults to \theauthor, which is set by \author if using the titling package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the authblk package, most of which do not result in a sensible \theauthor, so \HTMLAuthor is useful to create a list of authors without their affiliations. |
| \HTMLDescription Default: <empty> | \HTMLDescription: {<description>} Sets the HTML description tag for the following files. May be changed before each each sectioning command which would cause a file split. |
| \HTMLPageTop Default: <empty> | \HTMLPageTop: {<contents>} A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. \LinkHome may be used to place a link back to the homepage, as well as \LinkPrevious and \LinkNext. Ignored in print output. |
| \HTMLPageBottom Default: <empty> | \HTMLPageBottom: {<contents>} A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. \LinkHome may be used to place a link back to the homepage, as well as \LinkPrevious and \LinkNext. Ignored in print output. |
| \LinkHome | \LinkHome: Creates a link to the home page. Usually used in \HTMLPageTop and related. |
| \LinkPrevious | \LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in \HTMLPageTop and related. |
| \LinkNext | \LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in \HTMLPageTop and related. |

Placed in the home page before the first sectioning command which causes a file break:

\tableofcontents

⚠ TOC on the homepage!

\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage.

Links to each chapter/section are provided, as selected by tocdepth.

Placed in the document wherever necessary:

\ImageAltText

Default: image

\ImageAltText: Redefine with \renewcommand. \includegraphics and other images are assigned an HTML alt tag according to \ImageAltText along

with `\AltTextOpen` and `\AltTextClose`. This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `\includegraphics` and other images.

`\ThisAltText`

`\ThisAltText:` `{<text>}` `\ThisAltText` can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`
Default: `math image`

`\MathImageAltText:` Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`
Default: `diagram`

`\PackageDiagramAltText:` Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

`(-xy- diagram)`

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`
Default: `(`
`\AltTextClose`
Default: `)`

`\AltTextOpen:` Redefine with `\renewcommand`.

`\AltTextClose:` Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

`\HTMLnewcolumntype`

`\HTMLnewcolumntype:` `\newcolumntype` may not always work with `lwarp` for HTML output, since it often involves TeX boxes and fills. To provide a simplified column type for HTML, add `\HTMLnewcolumntype` in addition.

Env `warpprint`

`warpprint:` An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause

problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won't have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.



Do not place anything else on the same line as `\end{warpprint}`. Also do not nest `warpprint` inside itself.

Env `warpHTML`

warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



Do not place anything else on the same line as `\end{warpHTML}`. Also do not nest `warpHTML` inside itself.

`\warpprintonly`

\warpprintonly: {*<contents>*} A macro version of the `warpprint` environment.

`\warpHTMLonly`

\warpHTMLonly: {*<contents>*} A macro version of the `warpHTML` environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage `index.html`, and `node-1`, `node-2`. ¹³

```
\usepackage[
    HomeHTMLFilename=index,
    HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

```
\usepackage[
    HomeHTMLFilename=index,
    HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite~About.html`, `mywebsite~Products`, etc.

¹³See `\SetHTMLFileName` to number in groups by chapter, for example.

```
\usepackage[
    HomeHTMLfilename=mywebsite,
    HTMLfilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

7.7 Customizing the css

`\CSSFilename {<filename>}`
Default: `lwarp.css`

`\CSSFilename` may be used to choose which .css file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by `lwarp` include:

lwarp.css: A default style if `\CSSFilename` is not used. This style is comparable to a plain L^AT_EX document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

lwarp_formal.css: A formal style with a serif fonts and a traditional look.

lwarp_sagebrush.css: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

⚠ Rename it! Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

| | |
|--------------------------------------|---|
| File <code>lwarp.css</code> | It is best to make a local project-specific css file such as <code>project.css</code> , containing only things which are different from <code>lwarp.css</code> . The file <code>project.css</code> should refer to <code>lwarp.css</code> as follows: |
| File <code>project.css</code> | |
| File <code>sample_project.css</code> | |

```
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */


---


```

Finally use \CSSFilename{<project>.css} in the document to activate the custom CSS.

7.8 Assigning css classes and styles

HTML css classes and styles may be assigned to fragments of the document.

Env BlockClass [*style*] {[*class*}]

An entire block of text, including paragraphs, may be assigned a css class and optional css style using the BlockClass environment. The result is placed inside a <div>. A BlockClass may nest other BlockClasses or \InlineClasses.

\InlineClass (<*wp css style*>) [<*web css style*>] {[*css class*} {[*text*}]}

A section of text without paragraphs may be assinged a css class and optional css style using the \InlineClass macro. The result is placed inside a . \InlineClass may be nested, but per the HTML standard it must not contain BlockClass, nor may it contain a paragraph, nor several other objects such as HTML figures. \InlineClass also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of BlockClass and \InlineClass are provided for the print version, so they may be used in the document without placing them inside warpHTML or \warpHTMLonly.

7.9 Selecting the operating system

Prog Unix lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.

Prog Mac OS If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.

Prog Windows

Opt OSWindows

When detected or specified, the operating-system path separator used by `lwarp` is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

7.10 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional L^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L^AT_EX and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which `lwarp` does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

Env `warpHTML` Anything which is to be done only for HTML5 output is surrounded by a `warpHTML` environment:

```
\begin{warpHTML}
  ... something to be done only during \HTML\ generation
\end{warpHTML}
```

⚠ `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpHTML` inside itself.
⚠ `nesting` `warpMathJax` may be used inside `warpHTML`.

Env `warpprint` Anything which is to be done only for print output is surrounded by a `warpprint` environment:

```
\begin{warpprint}
  ... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

⚠ `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.

Env `warpall` Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

```
\begin{warpall}
  ... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

- ⚠ \end{warpall} As above, do not place anything else on the line with \end{warpall}. Do not nest warpall inside itself.

⚠ nesting Macros are also provided for print-only or HTML-only code:

\warpprintonly {\langle actions\rangle}

Performs the given actions only when print output is being generated.

\warpHTMLonly {\langle actions\rangle}

Performs the given actions only when HTML output is being generated.

Env warpMathJax Anything which is to be done only while using HTML output with MATHJAX is surrounded by a warpMathJax environment. Usually, this is \CustomizeMathJax, used to add emulation macros. \end{warpMathJax} must appear on its own line. Do not nest warpMathJax inside itself. warpMathJax may be used inside warpHTML.

- ⚠ \end{warpMathJax}

⚠ nesting

Env warpsvg Anything which is to be done only while using print output or HTML output with SVG math is surrounded by a warpsvg environment. \end{warpsvg} must appear on its own line. Do not nest warpsvg inside itself. warpsvg may be used inside warpHTML.

- ⚠ \end{warpsvg}

⚠ nesting

7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a warpprint environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: \parindent \parskip
- Manual page positions such as the textpos package, which is emulated but only in a limited way.
- Anything changing the page counter. lwarp requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: Troubleshooting.

7.12 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
        Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the `HTML` files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 69.8.

`\maketitle` Use `\maketitle` just after the `\begin{document}`, as this will establish the title of the homepage. Optionally, use a `titlepage` environment instead.

`Env titlepage` The `titlepage` environment may be used to hold a custom title page. The `titlepage` will be set in a `<div>` class `titlepage`, and `\printtitle`, etc. may be used inside this environment.

`Env titlingpage` Another form of custom title page, where `\maketitle` is allowed, and additional information may be included as well.

`\title {\langle title\rangle}`

 **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and css detection.
 **newlines** Use a `\subtitle` command instead (section 69.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The `HTML` meta `title` tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

`\author {\langle author\rangle}`

In `\author`, `\protect` may be needed before some formatting commands. In `HTML`, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a `HTML` meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `l warp`.

`\date {\langle date\rangle}`

`\date` works as expected. In `HTML`, this will appear in a `<div>` class `titledate`.

`\thanks {\langle text\rangle}`

`\thanks` are allowed in the `titlepage` fields, and will be rendered as `HTML` notes at the bottom of the title page.

7.13 HTML page meta descriptions

`\HTMLDescription` *{\langle A description of the web page.\rangle}*
`Default:` `(none)`

`limitations` Each page of `HTML` output should have its own `HTML` meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (").

`placement` Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the `HTML` page for that `\section`. The

same description will be used for all following HTML files as well, until reset by a new \HTMLDescription. It is best to use a unique description for each HTML file.

disabling To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.14 HTML homepage meta title

\HTMLTitle {*<title>*}

Default: \HTMLtitle{\thetitle}

Sets the contents of the web page <meta name="title"> element. May be set empty to cancel the meta title tag.

See section 7.6 for \HTMLTitleBeforeSection and \HTMLTitleAfterSection, used to set the title for HTML subpages.

7.15 HTML page meta author

\HTMLAuthor {*<author>*}

Default: \HTMLAuthor{\theauthor}

Sets the contents of the web page <meta name="author"> element. May be set empty to cancel the meta author tag.

\author may be used to create a list of authors and their affiliations, in several formats if using authblk, and these may not successfully parse properly into a sensible list for \theauthor. \HTMLAuthor may be used to set the meta tag to a simple list of names.

8 Special cases and limitations

Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:



options with braces

Package options: Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
... try instead selecting the package options before loading lwarp:
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

Custom math environment macros: Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `xtoolbox`, `xparse`, etc.

When setting `FileSectionNames` to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid L^AT_EX, but invalid HTML. An example is a tabular inside \textbf, since HTML does not allow a table inside a span. l warp will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

⚠ \bfseries, etc. \textbf, etc. are supported, but \bfseries, etc. work only in some situations.

⚠ HTML special chars &, <, and > have special meanings in HTML. If \&, \textless, and \textgreater are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

program listings For program listings, the listings package is supported, and its literate option is used to convert &, <, and > to proper HTML entities.

verbatim The various verbatim-related environments do not convert &, <, and >, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

8.2.2 Small caps

Bool FixSmallCaps Some fonts, such as erewhon, utopia, or fbb, and some packages such as embrac, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which l warp then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

⚠ CJK fonts Some CJK fonts may not work if FixSmallCaps is set true.

8.2.3 Horizontal and vertical space and rules

\hspace \hspace is converted to an inline HTML span of the given width, except that 0 width is ignored, a width of .16667em is converted to an HTML thin breakable space (U+2009), and a \fill is converted to a \qquad.

\vspace \vspace is ignored for HTML.

\, \~ and \, are converted to HTML entities.

\kern \kern and \hskip are entered into the HTML PDF output as-is, then interpreted by \hskip pdfotext, and thus usually appear as a single space.

\rule \rule is converted to an HTML rule of the same dimensions, of the currently selected

text color.

- \hrule Both \hrule and \vrule are ignored for HTML. To create a horizontal dividing rule across the page, use \hrulefill in its own paragraph.
- \hrulefill \hrulefill usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a <div> with a thin horizontal border across the page, as would often be done with \hrule.

8.2.4 Text alignment

Use the environments center, flushright, flushleft instead of the macros \centering, \raggedright, \raggedleft.

- ⚠ figure & table alignment** \centering, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...

```

8.2.5 Accents

Native L^AT_EX accents such as \" will work, but many more kinds of accents are available when using Unicode-aware X_EL^AT_EX and LuaL^AT_EX. If using accents in section names which will become file names, it is recommended to use the L^AT_EX accents such as \" and \v instead of Unicode accents. The L^AT_EX accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

- Pkg textcomp Some textcomp symbols do not have Unicode equivalents, and thus are not supported.
- ⚠ missing symbols** Many textcomp symbols are not supported by many system/browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use x instead of \${}^x\$

8.2.8 Empty \item followed by a new line of text or a nested list:

- lists Use a trailing backslash: \item[label] \

8.2.9 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:

```
\item[\href{file\_name.pdf}{text}]
```

8.2.10 relsize package

Pkg **relsize** For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages

8.3.1 Marginpars

`\marginpar` [$\langle left \rangle$] [$\langle right \rangle$] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [$\langle left \rangle$] [$\langle right \rangle$] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.

8.3.2 Save Boxes

 **HTML corrupted**

 **boxes** TeX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.

 **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.

8.3.3 Minipages

 **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a

\newline between them.

side-by-side Side-by-side minipages may be separated by \quad, \qquad, \enskip, \hspace, \hfill, or a \rule. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

⚠ minipage in a span There is limited support for minipages inside an HTML . An HTML <div> cannot appear inside a . While in a , minipages, and \parboxes, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use \newline or \par for an HTML break.

⚠ minipage size When using minipage, \parbox, and fminipage, a virtual 6 × 9 inch text area is used for \linewidth, \textwidth, and \textheight, both for sizing the minipage, and also for its contents.

if width is \linewidth If a minipage or \parbox is assigned a width of exactly \linewidth, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if HTML A new macro \minipagefullwidth requests that, during HTML output, the next single minipage or \parbox be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.

⚠ tabular, multicols Inside a tabular or multicols environment, where the width depends on the browser window, \minipagefullwidth is effectively used by default for every minipage or \parbox inside the environment. \UseMinipageWidths may be used to tell l warp to honor the specified widths of all following minipages and \parboxes until the end of the local scope, and \IgnoreMinipageWidths may be used to tell l warp to ignore the specified widths.

⚠ multicols Inside a multicols, \linewidth is divided by the specified number of columns.

⚠ text alignment Nested minipages adopt their parent’s text alignment in HTML, whereas in regular LATEX PDF output they do not. Use a flushleft or similar environment in the child minipage to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a center environment, with horizontal space between them, such as \quad, \qquad, \hspace, or \hfill. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

\fbox can only be used around inline items during HTML output, but HTML cannot place a block element such as a <div> for a minipage or a list inside of a . Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

\fbox
 \fboxBlock
 Env fminipage

For a framed object, options include:

To remove the frame in HTML output: Place the \fbox command and its closing brace inside warpprint environments. This will nullify the frame for HTML output.

For inline text:

To frame the contents inline with some formatting losses in HTML: This is the default action of \fbox when enclosing a minipage. During HTML output, \fbox nullifies the HTML tags for minipage, \parbox, and lists. The contents are included as inline text inside the \fbox's of class framebox. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.

For inline minipage and lists:

To frame the contents on their own line with improved formatting in HTML: A new command \fboxBlock is included, intended to be a direct replacement for \fbox for cases where the \fbox surrounds a minipage, table, or list. For print output, this behaves as \fbox. For HTML output, the contents are placed inside an HTML <div> with the class framed, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a tabular. While an \fbox containing a tabular is valid L^AT_EX code, the result in HTML is problematic since a table is a <div> not a , so use \fboxBlock around a tabular, or else place the tabular inside a minipage, or use fminipage, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display tabular,
 minipages, and lists:

To create a framed minipage in both print and HTML: A new environment fminipage is included. For print output, this is identical to minipage, except that it is also framed. For HTML output, this forms a <div> of class framed, the contents preserve their HTML formatting, and valid HTML is created for a tabular. Also see section 89 for a new environment fcolorminipage. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 667 for xcolor's \colorbox and \fcolorbox, and l warp's additional \colorboxBlock and \fcolorboxBlock.

To frame tables or verbatim environments: Place the contents inside a fminipage, or perhaps a \fboxBlock for a tabular. Also, if using \fboxblock with tabular, you will have to use \StartDefiningTabulars before the start of the macro which uses \fboxBlock and the tabular, and \StopDefiningTabulars afterwards. Also see the l warp documentation for the fancybox package.

To frame equations: See section 259 for the fancybox package.

For fancy framed minipages: See packages boxedminipage, shadow, fancybox, framed, mdframed.

Custom environments: Use a custom environment to create a sidebar, containing a BlockClass environment with custom css formatting, and \warpprintonly{\hrule} command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
  % use \CSS\ to format div class framedminipage
```

⚠ Misplaced alignment
 tab character &

```
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

8.3.6 fancybox package

Pkg **fancybox**
framed equation example

fancybox's documentation has an example `FramedEqn` environment which combines math, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\latextimage` at the very start of `FramedEqn`'s beginning code, and `\endlatextimage` at the very end of the ending code. Unfortunately, the `HTML alt` attribute is not used here.

```
\newenvironment{FramedEqn}
{
\latextimage% NEW
\setlength{\fboxsep}{15pt}
. . . }{. . .
[\fbox{\TheSbox}]
\endlatextimage% NEW
}
```

framing alternatives

`\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

framed table example

The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some `HTML` formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
. . .
\end{tabular}
\end{fminipage}
\end{table}
```

⚠ **framed verbatim**

`lwarp` does not support the `verbatim` environment inside a span, box, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
  \VerbatimEnvironment
  \fminipage{#1}
  \begin{Verbatim}
}{%
  \end{Verbatim}
  \endfminipage
}
```

framed \VerbBox fancybox's \VerbBox may be used inside \fbox.

indented alignment \Verbatim, \LVerbatimInput, and \LUseVerbatim indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

8.3.7 mdframed package

Pkg **mdframed support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for mdframed environments and frame titles.

⚠ **loading** When used, l warp loads mdframed in HTML with framemethod=none.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where \textbf must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the mdframed source). Since l warp does not support \bfseries and friends, only one font selection may be made at a time.

theoremtitlefont theoremtitlefont is not supported, since the following text is not in braces in the mdframed source.

ignored options userdefinedwidth and align are currently ignored.

css classes Environments created or encapsulated by mdframed are enclosed in a <div> of class mdframed, and also class md<environmentname> for new environments.

Frame titles are placed in a <div> of class |mdframedtitle|. Subtitles are in a <div> of class |mdframedsubtitle|, and likewise for subsubtitles.

8.3.8 tcolorbox package

Pkg **tcolorbox** tcolorbox is emulated for HTML and MATHJAX, and supported as-is inside a lateximage

or SVG math.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- `theorems`: Theorems are supported. `math`, `ams equation`, etc. are not supported.
Use a `tcolorbox` with regular math inside it. `\tcboxmath` and `\tcbhighmath` are supported in SVG math, and emulated in MATHJAX.
- Fitting features: `\tcboxfit` becomes `\tcbox` in HTML.
- Footnote numbering does not match the printed output.
- MATHJAX emulation is provided for common macros.

⚠ **math**

⚠ **footnotes**

⚠ **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {\text{}}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {\macro{}}
```

⚠ **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and

textcomp macros, including if defined by xunicode, but not all xunicode macros. See the definition of \LWR@nullfonts for a complete list.

```
\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}
```

⚠ duplicate filename Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. lwarp will generate an error if a duplicate HTML filename is generated. Use the optional toc caption entry parameter for formatting. Remember to \protect LATEX commands which appear in section names and TOC captions.

⚠ math in section names If using named HTML files, in section names use paren math $\langle x+y \rangle$ instead of dollar math $x+y$$. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use \texorpdfstring from the hyperref package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

8.5 Cross-references

labels Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).

⚠ label characters \nameref refers to the most recently-used section where the \label was defined. If no section has been defined before the \label, the link will be empty. Index entries also use \nameref and have the same limitation.

8.5.1 Page references

⚠ LATEX page numbers The printed page does not translate to the HTML page, so \pageref references are converted to parentheses containing \pagerefPageFor, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```
\ref{sec:name} on page \pageref{sec:name}
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.
```

\pagerefPageFor may be redefined to “page for”, empty, etc. See page 531.

8.5.2 cleveref and varioref packages

Pkg cleveref cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for \cpageref and \cpagerefrange. This phrase includes \cpagerefFor, which defaults to “for”.

⚠ cleveref page numbers

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See \cpagerefFor at page 773 to redefine the message which is printed for page number references.

⚠️ varioref types cleveref changes the behavior of varioref in that the reference type is automatically printed if cleveref is loaded. Lwarp requires cleveref, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the cleveref package for the document.

8.5.3 Hyperlinks, hyperref, and url

Pkg `hyperref` lwarp emulates hyperref, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

Pkg `url`

⚠️ comments between arguments Do not place a comment with a % character between arguments for \hyperref, etc., as it is neutralized for inclusion in HTML URLs.

lwarp can also load url, but url should not be used at the same time as hyperref, since they both define the \url command. Lwarp does not (yet) attempt to convert url links into hyperlinks during HTML output, nor does the print version of url create hyperlinks.

⚠️ backref When generating HTML, lwarp's emulation of hyperref does not automatically load backref, so backref must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

lwarp uses native L^AT_EX footnote code, although with its own \box to avoid the L^AT_EX output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For bigfoot, manyfoot, or perpage:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by FootnoteDepth, which is not necessarily by HTML page. This is recommended for \alph, \Alph, or \fnsymbol footnotes, due to the limited number of symbols which are available.

MATHJAX Also for MATHJAX, \footnotename is used for a \footnotemark if the actual footnote number is not known. To redefine it, provide it before loading lwarp:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the pagenote package, there is no \pagenotename to define, since there is no \pagenotemark command.

footmisc The footmisc stable option is emulated by lwarp.

⚠ sectioning commands When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the footmisc package with the stable option, provide a short TOC entry, and \protect the \footnote:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using memoir class, with which lwarp preloads footmisc, the stable option must be declared before lwarp is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust \secnumdepth instead.

fancybox, fancyvrb If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

⚠ pfnote numbers While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. lwarp therefore uses continuous footnote numbering even for pfnote.

bigfoot, manyfoot Verbatim footnotes are not yet supported.

⚠ verbatim

If using the bigfoot package, and possibly also manyfoot, problems may occur with counter allocation because lwarp uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L^AT_EX. With bigfoot this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X_EL^AT_EX or LuaL^AT_EX instead of PDF L^AT_EX.

8.5.5 xr, xr-hyper, and xcite packages

See section 5.17.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

HTML page and TOC

The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, `tocbibind`, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC

 **inaccessible HTML page**

entry pointing to that page, the page will be inaccessible unless some other link is created.

\ForceHTMLTOC

To automatically force the HTML version of the document to have a TOC entry for a starred section, use \ForceHTMLTOC just before the \chapter* or \section*, and place \phantomsection and \addcontentsline inside a warprint environment.

For print output, \ForceHTMLTOC and \ForceHTMLPage have no effect.

8.6.3 abstract package

Pkg abstract

 **missing TOC**

If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

8.6.4 titling and authblk

Pkg titling

Pkg authblk

package support

 **load order**

\published and \subtitle

lwarf supports the native LATEX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

8.6.5 tocloft package

Opt [tocloft] titles

Pkg tocloft

Pkg tocloft

 **tocloft & other packages**

If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard LATEX commands to create the titles, allowing other packages to work with it.

8.6.6 appendix package

Pkg appendix

 **incorrect TOC link**

During HTML conversion, the option toc without the option page results in a TOC link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

8.6.7 pagenote package

Pkg pagenote

pagenote works as-is, but the page option is disabled.

 **labels**

Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 endnotes package

Pkg endnotes

To place the endnotes in the TOC, use:

table of contents

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*\notesname{Endnotes} % optional
```

HTML page To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

- ⚠ **\endnotemark
numbering** If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

8.6.9 BibTeX

`\etalchar` Displays a superscript “+” to indicate “and others”.

- ⚠ **Modify *.bib** When enough authors are cited for a source, BIBTeX may use the `\etalchar` command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper `\prevdepth`” error. At present, lwarp requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the .bib file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}
```

8.6.10 xcite package

See section 5.17.

8.6.11 gloss package

Pkg `gloss` To process the HTML glossary:

- ⚠ **compiling** `bibtex <projectname>.html.gls`

8.6.12 glossaries package

Pkg glossaries
processing glossaries
 Opt GlossaryCmd
 Default: `makeglossaries`
 Opt [lwarpmk] printglossary
 Opt [lwarpmk] htmlglossary

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

⚠ makeglossaries not found In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with `xindy`:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for `makeglossaries` may be set as well.

placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ glossary style The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ number list The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions

The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.13 nomencl package

Pkg nomencl To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

8.6.14 Indexing overview

There are many ways to process indexes for a L^AT_EX document, including native L^AT_EX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarf* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

manual processing The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, *.idx and *.ind files will be accompanied by *_html.idx and *_html.ind files.

custom index style If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

link appearance To control how the index links appear in the HTML output, see the IndexRef option in section 7.5, page 112.

source code See section 79 for *lwarf*'s core index and glossary code, section 340 for index, section 568 for splitidx, section 338 for imakeidx, section 622 for tocbind, and section 688.17 for memoir's indexing patches.

8.6.15 Indexing with makeidx, makeindex, xindy, xindex, gindex

lwarpmk processing The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

Prog makeindex **For a single index using makeindex:**

```
\usepackage[makeindex, latexmk] {lwarf}
```

The usual .idx and .ind files will be used, along with the new *lwarf.ist* style file. When creating the HTML index, “_html” is automatically appended to each of the names.

lwarfmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.20](#).

Prog xindy **For a single index using xindy:**

```
\usepackage[  
    xindy,  
    xindyLanguage=english,  
    xindyCodepage=utf8,  
    latexmk  
]{lwarf}
```

The usual .idx and .ind files will be used, along with the new lwarf.xdy style file.

lwarfmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.21](#).

Prog xindex **For a single index using xindex:**

```
\usepackage[  
    xindex,  
    latexmk  
]{lwarf}
```

The usual .idx and .ind files will be used.

lwarfmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.22](#).

Pkg gindex **For a single index using gindex:**

```
\usepackage[
    makeindex,
    makeindexStyle=gindex.ist,
    . . . or . .
    makeindexStyle=gindexh.ist,
    latexmk
]{lwarp}
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, copy *gindex.ist* to a new file, modify, then specify it with *MakeindexStyle* as above. *lwarp* will automatically adapt to *gindex*'s \indexpagessep and \indexrangesep settings.

8.6.16 Indexing with index

Prog index

lwarp is told how to use *makeindex* using the *PrintIndexCmd* and *HTMLIndexCmd* options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special *HTML* formatting for *HTML* output.

For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions .sist and .sind)

```
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        makeindex -s lwarp.ist <projectname>.idx ;
        makeindex -s lwarp.ist
        -o <projectname>.sind <projectname>.sidx
    },
    HTMLIndexCmd={
        makeindex -s lwarp.ist <projectname>_html.idx ;
        makeindex -s lwarp.ist
        -o <projectname>_html.sind <projectname>_html.sidx
    }
]{lwarp}
\usepackage{index}
. .
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

When creating the `HTML` index, “`_html`” is automatically appended to the index filenames.

Use

Enter ⇒ `lwarpmk printindex`

Enter ⇒ `lwarpmk htmlindex`

to compile the indexes.

If the `latexmk` option is selected for `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

8.6.17 Indexing with `splitidx`

Prog `splitidx`

`lwarf` is told how to use `splitindex` using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarf.ist` is specified, which generates index letter heads for print output and also allows special `HTML` formatting for `HTML` output.

If the `latexmk` option is selected for `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

- ⚠ `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during `HTML` output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}  
\LWR@new@label{\LWRindex-\arabic{LWR@autoindex}}
```

where the `\index-like` action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 688.17 in the `lwarf-patch-memoir` package for the `\@@wrspindexhyp` macro as an example.

For multiple indexes using *makeindex* and *splitidx*:

```
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        splitindex <projectname> -- -s lwarp.ist
    },
    HTMLIndexCmd={
        splitindex <projectname>_html -- -s lwarp.ist
    }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the **HTML** index, “**_html**” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
    xindy, latexmk,
    PrintIndexCmd={
        splitindex -m xindy <projectname> -- -M lwarp.xdy
        -L english -C utf8                                <optional>
    },
    HTMLIndexCmd={
        splitindex -m xindy <projectname>_html -- -M lwarp.xdy
        -L english -C utf8                                <optional>
    }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the **HTML** index, “**_html**” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

8.6.18 Indexing with imakeidx

Prog imakeidx

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include *lwarp*'s special *lwarp.ist* or *lwarp.xdy* file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

The `splitindex` option is also available if shell escape is used, in which case the *splitidx* package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s `lwarpmk printindex` and `lwarpmk htmlindex` commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. *lwarp*'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style *lwarp.ist* is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk]{lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

imakeidx will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for *lwarpmk print* and *lwarpmk html*, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style *lwarp.ist* is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex, latexmk] {lwarf}
\usepackage[makeindex, splitindex]{imakeidx}
...
\makeindex[options={-s lwarf.ist}]
\makeindex[name=secondname, options={-s lwarf.ist}]
```

⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

Enter ⇒ **pdflatex --shell-escape projectname.tex**

Enter ⇒ **pdflatex --enable-write18 projectname.tex** (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarf will remember that shell escape was used.

imakeidx will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

latexmk may be specified, and if so it will be used for **lwarpmk print** and **lwarpmk html**, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s *\makeindex* command. The style file *lwarf.xdy* is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for *\makeindex*, since *imakeidx* will process the indexes.

```
\usepackage[xindy, latexmk] {lwarf}
\usepackage[xindy, splitindex]{imakeidx}
...
\makeindex[
  options={ -M lwarf.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarf.xdy -L english -c utf8 }
]
```

⚠ enable shell escape

For the first compile, use

Enter ⇒ **pdflatex --shell-escape projectname.tex**

Enter ⇒ **pdflatex --enable-write18 projectname.tex** (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarf will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:

lwarf's options are used, and are passed to *latexmk*.

```
\usepackage[
    xindy,
    xindyLanguage=english,                                <optional>
    xindyCodepage=utf8,                                 <optional>
    latexmk,
]{lwarf}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

latexmk will create the indexes automatically when **lwarpmk print** and **lwarpmk html** are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```
\usepackage[
    xindy,
    PrintIndexCmd={
        xindy -M lwarf.xdy -L english -C utf8
        <projectname>.idx ;
        xindy -M lwarf.xdy -L english -C utf8
        secondname.idx
    },
    HTMLIndexCmd={
        xindy -M lwarf.xdy -L english -C utf8
        <projectname>_html.idx ;
        xindy -M lwarf.xdy -L english -C utf8
        secondname_html.idx
    }
]{lwarf}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```
\usepackage[%  
    xindex,  
    xindexConfig=-imakeidx,  
    latexmk  
] {lwarp}  
\usepackage[makeindex,splitindex]{imakeidx}  
...  
\makeindex[%  
    options={ -s lwarp.ist} ]  
]  
\makeindex[  
    name=secondname,  
    options={ -s lwarp.ist} ]  
]
```

 **enable shell escape**

For the first compile, use:

```
Enter ⇒ pdflatex --shell-escape projectname.tex  
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember if shell escape was used.

xindex will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

8.6.19 Indexes with memoir

For a single index with memoir and *makeindex*:

```
\documentclass{memoir}  
\usepackage[makeindex,latexmk]{lwarp}  
...  
\makeindex
```

The usual .idx and .ind files will be used, along with the *lwarp.ist* style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex  
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and makeindex, using latexmk:

lwarf's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[makeindex, latexmk]{lwarf}
...
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes **lwarpmk print** and **lwarpmk html**.

For multiple indexes with memoir and makeindex, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarf.ist <projectname>.idx ;
    makeindex -s lwarf.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarf.ist <projectname>_html.idx ;
    makeindex -s lwarf.ist secondname_html.idx
  }
]{lwarf}
...
\makeindex
\makeindex[secondname]
```

 **WINDOWS**

For Windows, replace the two ";" characters with "&".

<projectname> is the \jobname: if compiling "name.tex", use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For a single index with memoir and xindy:

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,                                     <optional>
    xindyCodepage=utf8,                                       <optional>
    latexmk                                                 <optional>
]{lwarp}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the `lwarp.xdy` style file.

`lwarpmk` will use `latexmk` if specified, in which case `latexmk` will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

`lwarp`'s options are used, and are passed to `latexmk`.

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,                                     <optional>
    xindyCodepage=utf8,                                       <optional>
    latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

`lwarpmk` will use `latexmk` to create the indexes automatically.

For multiple indexes with memoir and xindy, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
    xindy,
    PrintIndexCmd={
        xindy -M lwarp.xdy -L english -C utf8
        <projectname>.idx ;
        xindy -M lwarp.xdy -L english -C utf8
        secondname.idx
    },
    HTMLIndexCmd={
        xindy -M lwarp.xdy -L english -C utf8
        <projectname>_html.idx ;
        xindy -M lwarp.xdy -L english -C utf8
        secondname_html.idx
    }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

⚠ **WINDOWS**

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.20 Using a custom *makeindex* style file

Prog makeindex When using *makeindex*, *lwarpmk* uses the file *lwarp.ist* to process the index. This file is over-written by *lwarp* whenever a print version of the document is processed.
File *lwarp.ist*

To use a custom *makeindex* style file:

1. Copy *lwarp.ist* to a new filename such as *projectname.ist*
2. Make changes to *projectname.ist*. Keep the lines which refer to *\hyperindexref*. These lines creates the hyperlinks for the HTML index. During print output *\hyperindexref* becomes a null function.
3. If changing

delim_n -and- delim_r

in *projectname.ist*, then in the document preamble redefine

\IndexPageSeparator -and- \IndexRangeSeparator
to match.

- Opt makeindexStyle 4. In the document source use the makeindexStyle option for lwarp:

```
\usepackage[
    ... other options ...
    makeindex,
    makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using \PrintIndexCmd, \HTMLIndexCmd, or \LatexmkIndexCmd.

5. Recompile the print version, which causes lwarp to rewrite the lwarpmk.conf configuration file. This tells *lwarpmk* to use the custom projectname.ist file instead of lwarp.ist.

8.6.21 Using a custom *xindy* style file

Prog xindy When using *xindy*, *lwarpmk* uses the file lwarp.xdy to process the index. This file is over-written by lwarp whenever a print version of the document is processed.
File lwarp.xdy

To use a custom *xindy* style file:

1. Copy lwarp.xdy to a new filename such as projectname.xdy
2. Make changes to projectname.xdy.

Keep the lines which refer to \hyperindexref:

```
(define-attributes ((hyperindexref)))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output \hyperindexref becomes a null function.

To create custom styles, refer to the lines for \textbf and \textit.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in projectname.xdy, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt xindyStyle 4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
    . . . other options . .
    xindy,
    xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

8.6.22 Using a custom `xindex` style file

Prog xindex To use a custom `xindex` style file:

-  filename
1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.
 2. Make changes to `xindex-projectname.lua`.
 3. If changing


```
itemPageDelimiter -and- rangeSymbol
```

 in `xindex-projectname.lua`, then in the document preamble redefine


```
\IndexPageSeparator -and- \IndexRangeSeparator
```

 to match.

Opt xindexConfig 4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
    . . . other options . .
    xindex,
    xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

8.6.23 Additional indexing limitations

-  xindy with hyperref `xindy` and `hyperref` may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

-  **empty index** If an HTML index is empty, it may be necessary to add the following before `lwarp` is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{lwarp}
```

- makeindex custom display styles** When using `makeindex`, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
...
A sentence.\index{key|notesstyle}
```

- xindy custom display styles** For custom styles with `xindy`, see `lwarp.xdy` for `\textbf` and `\textit` as examples.

8.6.24 Index positions, toc, tocbibind

- placement and toc options** An index may be placed inline with other HTML text, or on its own HTML page:

Pkg `makeidx` **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\printindex
```

Pkg `makeidx` **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg `tocbibind` **Inline, with an automatic toc entry:**

The `tocbibind` package may be used to automatically place an entry in the toc.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

Pkg tocbibind On its own HTML page, with an automatic TOC entry:
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex numbered index section Use the `tocbibind numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

Pkg tocloft If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.



tocloft & other packages

8.7 Math

8.7.1 Math in section names

math in section names

If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{\(1+2=3\)}{three}}
```

8.7.2 Rendering tradeoffs

Math rendering Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

SVG files

Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

SVG inline

The SVG images are currently stored separately, but they could be encoded in-line directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

| | |
|------------------|---|
| PNG files | Others L ^A T _E X-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics. |
| MathML | Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX. |

8.7.3 SVG option

| | |
|---|--|
| SVG math option | For SVG math, math is rendered as usual by L ^A T _E X into the initial PDF file using the current font ¹⁴ , then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L ^A T _E X with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML alt attribute carries the L ^A T _E X code which generated the math, allowing copy/paste of the L ^A T _E X math expression into other documents. |
| SVG image font size | For the lateximage environment, the size of the math and text used in the SVG image may be adjusted by setting \LateximageFontSizeName to a font size name— <i>without the backslash</i> , which defaults to: |
| | <code>\renewcommand{\LateximageFontSizeName}{\normalsize}</code> |
| | For inline SVG math, font size is instead controlled by \LateximageFontSizeScale, which defaults to: |
| | <code>\newcommand*{\LateximageFontSizeScale}{.75}</code> |
| SVG math copy/paste | For SVG math, text copy/paste from the HTML <alt> tags lists the equation number or tag for single equations, along with the L ^A T _E X code for the math expression. For AMS environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred AMS environment, although the \tag macro will still appear inside the L ^A T _E X math expression. |
| ⚠ SVG math size, baseline | SVG math sizing and baselines are improved if the graphics or graphicx package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if graphics or graphicx are not used. |
| ⚠ SVG math in TeX boxes | SVG math does not work inside TeX boxes, since a \newpage is required before and after each image. |

8.7.4 MATHJAX option

| | |
|----------------------------|--|
| MATHJAX math option | The MATHJAX (mathjax.org) L ^A T _E X-math to HTML converter may be used to display math. |
| Prog | MathJax |

¹⁴See section 673 regarding fonts and fractions.

When MATHJAX is enabled, math is rendered twice:

1. As regular LATEX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of LATEX, and
2. As detokenized printed LATEX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current LATEX values, and the MATHJAX equation numbering system is ignored in favor of the LATEX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

8.7.5 Customizing MATHJAX

equation numbering

lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as amsmath \numberwithin for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```
\renewcommand*\theequation{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*\theMathJaxsection{\Alph{section}.}
}
```

⚠ subequation

The amsmath subequations environment is supported, but only with \alpha subequation numbering.

global customizations

MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```
\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle #1 \rangle}
  \newcommand{\abs}[1]{\lvert #1 \rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}
```

⚠ slow compilation

To avoid a slowdown in compile speed, use the warpMathJax environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own \CustomizeMathJax. A warning to this effect is issued if an overly-long definition is attempted.

lwarp already provides MATHJAX customizations for some packages.

siunitx

When using siunitx, a similar process may be used to add custom units:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\mu\myunit}}}
\end{warpMathJax}
```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 398, [mathtools](#).

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```
\begin{warpMathJax}
\(\ \newcommand{\macro}{...} \
\(\ \newcommand{\another}{...} \
\end{warpMathJax}
```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For `MATHJAX`, use `\ifstar` instead of `\@ifstar`:

```
\CustomizeMathJax{
\def\myname{
\ifstar\starredaction\nostarredaction
% (Do not place anything after!)
}}
```

`\ifnextchar` For `MATHJAX`, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.6 MATHJAX limitations

MATHJAX limitations Limitations when using `MATHJAX` include:

Prog MathJax

⚠ `\multicolumn`, `multirow`

- `MATHJAX` does not support `\multicolumn` or `multirow`. These may be used in text tabulars or SVG math, but in `MATHJAX` math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.

⚠ `footnotes`

- Footnotes are emulated when used inside a `MATHJAX` expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with `MATHJAX`.

⚠ `references`

- Inside a `MATHJAX` expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different

HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

`lateximage`

- Math appearing inside a `lateximage`, and therefore also inside a `Tikz` or `picture` environment, is rendered as SVG math even if `MATHJAX` used in the rest of the document.

`siunitx`

- For `siunitx`, see [siunitx package](#), section 8.7.13.

`physics`

- For `physics`, see [physics package](#), section 8.7.15.

`tabbing`

- A tabbing environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

`\text`

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. `Lwarp` supports this extension.

`Unicode`

- If using DVI LATEX or PDF LATEX, unicode input may not appear correctly in MATHJAX. Either use XELATEX or LUALATEX, or replace Unicode special characters such as

```
\text{special character æ}
```

with their special macros, such as

```
\text{special character \ae}
```

`other macros and packages`

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, `lwarp` provides emulation for many of these macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.7 Catcode changes

`preamble macros with math`

The math shift character \$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain \$ must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of \$:

```
\StartDefiningMath
\newcommand{...}
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of \$, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using \$, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.8 Complicated inline math objects

| | |
|--|---|
| \inlinemathnormal \inlinemathother changing contents | An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as $x+1$, so the image can be reused for multiple instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses. |
| complicated alt tag MATHJAX limitations | Another problem is complicated contents which do not expand well in an alt tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro \inlinemathother may be used before a sequence of dynamic or complicated math expressions, and \inlinemathnormal after. Doing so tells l warp to use unhashed SVG math images for those particular expressions, even if MATHJAX is otherwise in use. See section 44. |

8.7.9 Complicated display math objects

| | |
|---|--|
| \displaymathnormal | By default, or when selecting \displaymathnormal, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail. |
| \displaymathother MATHJAX unsupported complicated alt tag | When selecting \displaymathother, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully. |

8.7.10 Theorems

⚠ cref reference format undefined

If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.¹⁵ For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  ...
  \ifdef{\cref}{%
    \crefname{Proof}{Proof}{Proofs}
  }{}}
```

¹⁵l warp uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`. This is also before the .aux file is read.

8.7.11 ntheorem package

Pkg ntheorem This conversion is not total. Font control is via css, and the custom L^AT_EX font settings are ignored.

⚠️ **Font control**

ntheorem has a bug with equation numbering in *AMS* environments when the option `thref` is used. l warp does not share this bug, so equations with `\split`, etc, are numbered correctly with l warp's HTML output, but not with the print output. It is recommended to use `cleveref` instead of ntheorem's `thref` option.

8.7.12 mathtools package

Pkg mathtools `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by l warp. Equation numbers may not match the print version.

⚠️ **equation numbering**

⚠️ **italic correction** `mathic` is not emulated for HTML.

⚠️ **MATHJAX** If using MATHJAX:

- `mathtools disallowspaces` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:


```
\begin{gathered}{}[p]=1 \dots\end{gathered}
```
- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- `alignat` in MATHJAX requires math mode, but in L^AT_EX it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

8.7.13 siunitx package

Pkg siunitx sunitx v3 is not yet supported. For now, specify version 2:

⚠️ **v3 not yet!** `\usepackage{siunitx}[=v2]`

This may be also be necessary before loading other packages which also use siunitx, such as chemmacros.

fractions Due to `pdftotext` limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠️ **math mode required** Some units will require that the expression be placed inside math mode.

⚠️ **tabular** Tabular S and s columns are rendered as simple c columns. These may be replaced by c columns with each cell contained in `\num` or `\si`.

⚠ MathJax

For math mode with SVG display, the original `siunitx` code is used while generating the SVG image. For text mode, `l warp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

custom units

- Custom units may be added with `\CustomizeMathJax`. See the `l warp-siunitx` code for examples.

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

⚠ \square, \cubic

- To square or cube compound units, enclose the following compound units in braces:

$$\backslash\cubic{\centi\meter}$$

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

8.7.14 units and nicefrac packages

Pkg units

`units` and `nicefrac` work with `l warp`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `l warp`'s option `svgmath`.

Pkg physics

8.7.15 physics package

`physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

8.8 Graphics

Pkg graphics

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and `l warp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `l warp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

file extensions**⚠ case sensitive****\includegraphics file formats**

For `\includegraphics` with .pdf or .eps files, the user must provide a .pdf or .eps

Table 9: \includegraphics and file names

| Print image file | HTML image file | Command to use |
|------------------------|------------------------|--|
| image.pdf ^a | image.svg ^a | \includegraphics{image} |
| image.eps ^a | image.svg ^a | \includegraphics{image} |
| image.jpg | — ^b | \includegraphics{image} |
| image.png | — ^b | \includegraphics{image} |
| image.JPG | — ^b | \includegraphics{image.JPG} ^c |
| image.PNG | — ^b | \includegraphics{image.PNG} ^c |
| image.jpg | image.gif | \includegraphics{image} |

^a: Must be a lowercase file extension.^b: The same file is used for print and HTML.^c: The uppercase extension must be specified.

image file for use in print mode, and also a .svg, .png, or .jpg version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, lwarp will automatically choose the .pdf or .eps format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html  
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo To convert a PDF image to SVG, use the utility *pdftocairo*:

PDF to SVG

Enter ⇒ **pdftocairo -svg filename.pdf**

Prog lwarpmk pdftosvg For a large number of images, use *lwarpmk*:

Enter ⇒ **lwarpmk pdftosvg *.pdf (or a list of filenames)**

Prog lwarpmk epstopdf For EPS images converted to PDF using the package *epstopdf*, use

epstopdf

epstopdf package

to convert to SVG images.

DVI LATEX When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **lwarpmk epstopdf *.eps (or a list of filenames)**

Enter ⇒ **lwarfmk pdftosvg *.pdf (or a list of filenames)**

PNG and JPG For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

duplicate files A complication occurs if a file of the same name exists elsewhere in the TeX tree, such as a test image from some L^AT_EX package. TeX looks in the local document directory before considering the directories specified by \graphicspath, but the TeX tree is found as “local”, so any file in the tree is found before the directories in \graphicspath. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠️ image not displayed If using the older *graphics* syntax, use both optional arguments for \includegraphics. A single optional parameter is interpreted as the newer *graphicx* syntax. Note that viewports are not supported by lwarf—the entire image will be shown.

units For \includegraphics, avoid px and % units for width and height, or enclose them inside warpHTML environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys width=.5\linewidth, or similar for \textwidth or \textheight to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the scale option, since it is not well supported by HTML browsers.

options \includegraphics accepts width and height, origin, rotate and scale, plus new class and alt keys.

HTML class With HTML output, \includegraphics accepts an optional class=xyz keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the \includegraphics alt key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to \ImageAltText.

⚠️ scale Avoid using the \includegraphics scale option. Change:

\includegraphics[scale=<xx>]{ . . . }

to:

\includegraphics[width=<yy>\linewidth]{ . . . }

\rotatebox \rotatebox accepts the optional origin key.

⚠️ browser support \rotatebox, \scalebox, and \reflectbox depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace which

they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.

8.8.1 tikz package

Pkg tikz If using display math with `\tikzpicture` or `\tikz`, along with matrices with the & character, the document must be modified as follows:

⚠️ **displaymath and matrices**

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the `tikz` expression must be replaced with \&.

8.8.2 grffile package

Pkg grffile `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

Pkg color `color` is superceded by `xcolor`, and `lwarf` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

8.8.4 xcolor package

Pkg xcolor `\colorboxBlock` and `\fcolorboxBlock` `\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a ``. These `<div>`s are set to `display: inline-block` so adjacent `\colorboxBlocks` appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarf`'s core if `xcolor` is loaded.

background: none `\fcolorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

color support Color definitions, models, and mixing are fully supported without any changes required.

colored tables `\rowcolors` is supported, except that the optional argument is ignored so far.

colored text and boxes `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

\color and \pagecolor `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.

8.8.5 epstopdf package

Pkg epstopdf Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

⚠️ convert to .svg Enter ⇒ `l warpmk pdftosvg <listofPDFfiles>`

to generate .svg versions.

8.8.6 pstricks package

Pkg pstricks All pstricks content should be contained inside a pspicture environment.

⚠️ use pspicture

8.8.7 pdftricks package

Pkg pdftricks The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

⚠️ convert image files Enter ⇒ `l warpmk pdftosvg <jobname>-fig*.pdf`

8.8.8 psfrag package

Pkg psfrag The psfrags environment is modified to use `\textrimage` to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by l warp.

⚠️ use psfrags Tip: Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

Pkg pstool \graphicspath is ignored, and the file directory must be stated.

⚠️ path and filename The filename must not have a file extension.

Use

Enter ⇒ `l warpmk html`

followed by

Enter ⇒ `l warpmk limages`

.

8.8.10 asymptote package

Pkg asymptote To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

Pkg overpic The macros `\overpic[fontsize]` and `\overpic[fontskip]` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and Overpic environments.



8.8.12 Multimedia packages

Pkg multimedia The packages `multimedia`, `movie15`, and `media9` are supported.

Pkg movie15

`HTML5 <audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg media9

`HTML5 <embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that `svg` math and `latexitimages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `latexitimage` environment, which will render the entire environment as a single `svg` image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, `siunitx` S columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

 **Misplaced alignment
tab character &**

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

`\StartDefiningTabulars`

`<define macros or environments using tabular and & here>`

`\StopDefiningTabulars`

 **floatrow**

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

 **tabular inside another
environment**

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of & before absorbing the arguments. Another environment may be embedded as well.


```
% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@somename}[2]{%
  ...
  \otherenvironmentname [<args>] {<args>} % for example
}

% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename}{%
  \StartDefiningTabulars
  \LWR@HTML@somename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  ...
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}
```

Cell contents:**⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.


```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:**⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with lwarf. Instead, each cell must specify math mode individually.

@ and !

- Only one each of @ and ! is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

⚠ `\newcolumntype`

- If `\newcolumntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumntype`.

font and alignment

- `lwarp` detects each of the following, and sets HTML CSS appropriately:

```
>{\centering\arraybackslash}
>{\raggedright\arraybackslash}
>{\raggedleft\arraybackslash}
>{\itshape}
>{\bfseries}
>{\bfseries\itshape}
```

These may be used with `\newcolumntype`, such as:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p[#1]}
```

Rules:

vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:

```
\cmidrule{2-3} \\[-2ex]
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

- For `\toprule` and `\bottomrule`, when combined with a `\warpprint` or `\warpHTML` environment, if a “Misplaced `\noalign`” error occurs, change

This & That `\endhead`

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

longtable headings

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

- For S columns (from the `sirunitx` package), while producing print output, anything non-numeric must be placed inside {} braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

⚠ `S columns`

⚠ tabular inside a

- In L^AT_EX, a tabular may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `\warp` environment.

8.10.2 multirow package

vposn

- Note that recent versions of `multirow` include a new optional `vposn` argument.
- For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

colored cells

- The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `l warp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn`

⚠ `\multicolumn` & `\multirow`

- See section 428.2 for `\multicolumnrow`.
- `l warp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0][1in][0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0][1in][0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ MathJax

- MATHJAX does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

8.10.3 longtable package

| | | |
|-----|------------------------|--|
| Pkg | <code>longtable</code> | Use one of either <code>\endhead</code> or <code>\endfirsthead</code> for both print and HTML, and use a <code>\warpprintonly</code> macro to disable the other head phrase, and also the <code>\endfoot</code> and <code>\endfirstfoot</code> phrases. (See section 8.10.4 if using <code>threeparttablex</code> .) |
|-----|------------------------|--|

```
\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead    % or \endhead, for print and HTML
\warpprintonly{           % not used in HTML
[ . . . ] \endhead      % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[ <lastfoot macros> ]   % HTML last footer, without \endfoot
                           % or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced \noalign** Use the `\warpprintonly` macro instead of the `\warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **\kill** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

8.10.4 threeparttablex package

Pkg `threeparttablex` `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead    % or \endhead, for print and HTML
\warpprintonly{           % not used in HTML
[ . . . ] \endhead      % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
... table contents ...
\warpHTMLonly{             % HTML last footer
\bottomrule
\UseMinipageWidths       % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 supertabular and xtab packages

Pkg supertabular For \tablefirsthead, etc., enclose them as follows:

Pkg xtab `\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars`

See section 8.10.1.

 **lateximage** supertabular and xtab are not supported inside a `lateximage`.

8.10.6 colortbl package

Pkg colortbl Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

 **row/cell color** `colortbl` ignores the overhang arguments.

8.10.7 ctable package

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

8.10.8 bigdelim package

Pkg bigdelim `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{\}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

`<-> a b`
`left { c d`
`e f`
`g h`
`<-> i j`

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

⚠ figure & table alignment \centering, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...

```

8.11.2 float, trivfloat, and/or algorithmicx together

Pkg float If using \newfloat, trivfloat, and/or algorithmicx together, see section 633.1.

Pkg trivfloat

Pkg algorithmicx

⚠ package conflicts

Pkg caption

Pkg subcaption

Package options may cause problems with lwrap, especially if they include curly braces.

If selecting options with braces in \usepackage does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwrap:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwrap}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

⚠ numbering To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for longtable. These positions depend on where the user places the \caption command inside each float.

8.11.4 subfig package

Pkg subfig

- ⚠️ **table numbering** To have correct sub table numbers:
- ```
\usepackage{caption}
\captionsetup[table]{position=top}
```
- ⚠️ **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.
- ⚠️ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

#### 8.11.5 floatrow package

Pkg floatrow

- ⚠️ **Misplaced alignment tab character & subfig package** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.
- When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.
- ⚠️ **\FBwidth, \FBheight** The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `l warp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

#### 8.11.6 keyfloat package

Pkg keyfloat

- ⚠️ **keywrap** If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a `minipage`, which internally adjusts for a virtual 6-inch wide `minipage`, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

## 8.12 KOMA-SCRIPT classes

- Cl<sup>s</sup> komascript Many features are ignored during the HTML conversion. The goal is source-level com-

patibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

 Not fully tested! [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

## 8.13 MEMOIR class

 `\documentclass{memoir}` lwarf uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

 `\usepackage{lwarf}` While emulating `memoir`, lwarf pre-loads a number of packages (section 688.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarf:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarf}
...
\usepackage{package_name}
```

 `\begin{comment}` `\end{comment}` `\label(bookmark){tag}` `\label` memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarf is intended to support the freestanding packages, which are often newer than the date declared by `memoir`, it is hoped that `memoir` will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

 `\begin{comment}` `\end{comment}` The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

 `\begin{comment}` `\end{comment}` `\verbfootnote` `\verbfootnote` is not supported.

 `\newfootnoteseries` `\newfootnoteseries`, etc. are not supported.

 `\begin{comment}` `\end{comment}` `\pagefootnote` lwarf loads `pagenote` to perform `memoir`'s `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

`\pagefootnote` `\cleveref` To add support for `pagenotes` with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

`page note \nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

 **poems** Poem numbering is not supported.

 **verbatim** The `verbatim` environment does not yet support the `memoir` enhancements. It is currently recommended to load and use `fancyvrb` instead.

 **glossaries** The `memoir` glossary system is not yet supported by *lwarfmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

 **framewithtitle, titledframe** The custom frame commands in the `memoir` manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```
\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
 \textbf{\#2}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
 \begin{fminipage}{\linewidth}
 \textbf{\#2}
 \begin{minipage}{\linewidth}
}
{\end{minipage}\end{fminipage}

\newcommand{\TitleFrame}[2]{%
 \par
 \textbf{\#1}\par
 \fbox{\#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
 \par
 \textbf{\#2}
 \begin{fminipage}{\linewidth}
}
{\end{fminipage}\end{warpHTML}
```

## 8.14 International languages

 **section and file names** If using `pdflatex` with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. `pdflatex` may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use `xelatex`, `lualatex`, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the `kotex` package.)

## 8.15 Miscellaneous packages

### 8.15.1 verse and memoir

Pkg `verse` When using `verse` or `memoir`, always place a `\\"` after each line.

Cls `memoir`  
`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `l warp` provides `\attribution`, which works for both print and `HTML` output. To combine the two so that `\attrib` is used for print and `\attribution` is used for `HTML`:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip`  
Len `\vleftmargini`  
Len `\HTMLvleftskip`  
Len `\HTMLleftmargini` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in `HTML` output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ `spacing` Horizontal spacing relies on `pdftotext`'s ability to discern the layout (`-layout` option) of the text in the `HTML`-tagged `PDF` output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to `HTML`, the stanza numbers are kept out of the left margin, which would have caused `pdftotext` to shift everything over.

### 8.15.2 newclude package

Pkg `newclude` `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `l warp` is loaded:

```
\documentclass{article}
. . .
\usepackage{newclude}
\usepackage[warpHTML]{l warp}
. . .
```

### 8.15.3 babel package

Pkg `babel` When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `l warp` is loaded:

```
\renewcommand*\CaptionSeparator{:\sim}
```

⚠ `\CaptionSeparator`

|                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>punctuation spaces</b><br><span style="color: red;">⚠</span> <b>customized spacing</b> | Also when French is used, lwarf creates fixed-width space around punctuation by patching \FBcolonspace, \FBthinspace, \FBguillspace, \FBmedkern, \FBthickkern, \FBtextellipsis, and the tilde. If the user's document also changes these parameters, the user's changes should be placed inside a warpprint environment so that the user's changes do not affect the HTML output. |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 8.15.4 polyglossia package

Pkg polyglossia lwarf uses cleveref, which has some limitations when using polyglossia, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by cleveref, then select other languages using \setotherlanguages.

Once the print version works with cleveref and polyglossia, the HTML version should work as well using lwarf.

#### 8.15.5 todonotes and luatodonotes packages

Pkg todonotes The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.  
Pkg luatodonotes

#### 8.15.6 fixme

Pkg fixme External layouts (\fxloadlayouts) are not supported.

⚠ **external layouts** Customized layouts are overwritten by lwarf's versions \AtBeginDocument in order to provide the HTML conversion. If creating a new layout, see lwarf's changes to provide similar for the new layout, inside a warpHTML environment.

User control is provided for setting the HTML styling of the "faces". The defaults are as follows, and may be changed in the preamble after fixme is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

### 8.15.7 acro package

⚠️ **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

### 8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `\teximage`:

```
\begin{teximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{teximage}
```

### 8.15.9 chemformula package

⚠️ **chemformula with MATHJAX** `chemformula` works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about `chemformula`.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

### 8.15.10 mhchem package

See section 409.

### 8.15.11 kotex package

Pkg `kotex` See section 8.14 regarding `pdflatex` and Korean section names.

⚠️ **Korean section names**

## 9 Compiling using custom shell commands

*lwarp* and *lwarpmk* try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, *TeX* engine, and *lwarp* options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using *lwarp* options, thus allowing the use of packages such as `perltx` and `pythontex`.

### 9.1 Command options

Opt `PrintLatexCmd` The *lwarp* options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.

`PrintLatexCmd` should be set to shell commands which take `project.tex` and generate `project.pdf`.

`HTMLLatexCmd` should be set to take `project_html.tex` and generate `project_html.pdf`. *lwarpmk* will then take `project_html.pdf` and automatically convert it and generate `project.html`.

### 9.2 Literal character macros

The *lwarp* package options are parsed by *TeX*, and so some characters require the use of a special macro to represent them. See table 10. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before *lwarp*:

---

```
\usepackage{kvoptions-patch}
\usepackage[
 PrintLatexCmd={ ... } ,
 HTMLLatexCmd={ ... }
]{lwarp}
```

---

Table 10: Literal character macros

| Character | Macro         | Comment                          |
|-----------|---------------|----------------------------------|
| %         | \LWRpercent   |                                  |
| \$        | \LWRdollar    |                                  |
| &         | \LWRamp       |                                  |
| %         | \LWRhash      |                                  |
| \         | \LWRbackslash |                                  |
| ' or "    | \LWRopquote   | Depends on the operating system. |
| & or &&   | \LWRopseq     | Depends on the operating system. |
| (space)   | \space        | Forces an extra space.           |
| (jobname) | \jobname      | Without file extension.          |

or \lwarpsetup must be used to set PrintLatexCmd and HTMLLatexCmd:

---

```
\usepackage[...]{lwarp}
\lwarpsetup{
 PrintLatexCmd=
 {
 latex tm \LWRopseq
 dvips -o tm-pics.ps tm.dvi \LWRopseq
 ps2pdf tm-pics.ps \LWRopseq
 pdflatex tm.tex
 },
 HTMMLatexCmd=
 {
 latex tm_html \LWRopseq
 dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
 ps2pdf tm_html-pics.ps \LWRopseq
 pdflatex tm_html.tex
 }
}
```

---

### 9.3 *latexmk*

Prog latexmk If *latexmk* is used for a project, it may be easiest to continue using it.

**latexmk project.tex** would create *project.pdf* as normal.

**latexmk project\_html.tex** would create *project\_html.pdf*, then

**lwarpmk pdftohtml project\_html.pdf** would take *project\_html.pdf* and convert it to *project.html*.

Pkg sagetex *latexmk* may simplify the use of packages such as `sagetex`.

## 9.4 perltex package

Pkg perltex The `l warp` package option settings to use `perltx` would be similar to:

```
\usepackage[
 ...
 PrintLatexCmd={perltx -latex=pdflatex project.tex} ,
 HTMLLatexCmd={perltx -latex=pdflatex project_html.tex} ,
 ...
]{l warp}
```

⚠ “impure” math Place `perltx` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.9.

## 9.5 pythontex package

Pkg pythontex An example using `pythontex`:

```
\usepackage[
 ...
 PrintLatexCmd={
 pdflatex project.tex \LWRopseq
 pythontex project \LWRopseq
 pdflatex project.tex
 } ,
 HTMLLatexCmd={
 pdflatex project_html.tex \LWRopseq
 pythontex project_html \LWRopseq
 pdflatex project_html.tex
 } ,
 ...
]{l warp}
```

Another possibility is to use `latexmk`, placing the `\Latexmk ...` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `l warp` option `latexmk` would not be used.

⚠ “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be enclosed inside a `lateximage` environment to prevent <, > and similar from being interpreted by the browser as HTML entities.

## 9.6 sympytex package

Pkg sympytex For `sympytex`:

---

```
\usepackage[
 ...
 PrintLatexCmd={
 pdflatex project.tex \LWRopseq
 python project.sympy \LWRopseq
 pdflatex project.tex
 } ,
 HTMLLatexCmd={
 pdflatex project_html.tex \LWRopseq
 python project_html.sympy \LWRopseq
 pdflatex project_html.tex
 } ,
 ...
]{}{lwarp}
```

Also see the warnings for `pythontex`, above.

## 9.7 Other packages

Pkg `rterface` Other packages such as `rterface` would be set up similar to `pythontex`, and the same warnings would apply.

## 9.8 *make* program

Prog `make` To use `lwarp` with the *make* program, have the `makefile` take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

## 9.9 UTF-8 locale

⚠ **UTF-8 locale** `lwarpmk` uses the `texlua` program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```
\usepackage{lwarp}[
 PrintLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project.tex
 }
 HTMLLatexCmd={
 env LC_CTYPE=en_US.UTF-8
 xelatex -shell-escape project_html.tex
 }
]
```

Pkg ditaa The only example seen so far where this is required is the `ditaa` package, where the locale change allows the use of UTF-8 with Xe<sup>L</sup>A<sub>T</sub>E<sub>X</sub> and `ditaa`. To use Lu<sup>a</sup>L<sup>A</sup>T<sub>E</sub>X instead, the locale change would have to be made inside the `ditaa` package where its calls the *ditaa* program.

## 10 EPUB conversion

lwarf does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

**<meta> author** To assign the author's name for regular lwarf HTML files, and also for the EPUB, use \HTMLAuthor {\<name>}. This assigns the name to the <meta> author element. It may be set empty, and it defaults to \theauthor.

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

### FormatEPUB

---

Bool FormatEPUB

Default: false

FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

---

To help convert lwarf HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after \usepackage{lwarf}. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarfmk cleanall
```

```
Enter ⇒ lwarfmk html
```

```
Enter ⇒ lwarfmk limages
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

### ⚠ search order

The EPUB conversion program must know what order the files are included. For lwarf projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

**Preferences → Plugins → File type plugins → HTML to Zip**

### ⚠ encoding

Check the box Add linked files in breadth first order. Set the document encoding as utf-8, which is what lwarf generates for HTML, even if the original printed document uses some other encoding.

### ⚠ section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarf's section headings, see table 12. For example, an article class document would break at \section, which is mapped to HTML heading level <h4>, whereas a book class document would break at \chapter, which is HTML heading level <h3>. For *Calibre*, this option is found in

**Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)**

Select the “magic wand” to the right of this entry box, and set the first entry

**Match HTML tags with tag name:**

to “h4”. (Or “h3” for document classes with \chapters.) The Detect chapters at field should then show

**//h:h4 — or — //h:h3**

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the lwarf-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

---

### *MathJax support*

---

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for siunitx.

lwarf adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader's version of MATHJAX, so lwarf requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn't work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where siunitx support is important.

---

## 11 Word-processor conversion

lwarf may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LibreOffice works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarf provides some assistance in locating these frame boundaries, as shown below.

### 11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

| FormatWP                        |                                                                                                                                                                                                                                                                                         |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bool FormatWP<br>Default: false | Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT. |

To help modify lwarf HTML output for easier import to a word processor, add

`\booltrue{FormatWP}`

to the project's source preamble after lwarf is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The css has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.

- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have no border when printed, and lwarf also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in LIBREOFFICE.
  - \includegraphics and svg math width and height are made explicit for LIBREOFFICE.
  - \hspace is approximated by a number of \quads, and rules are approximated by a number of underscores.
  - Explicit HTML styles are given to:
    - \textsc, etc.
    - \underline, soul and ulem markup.
    - center, flushleft, flushright.
    - \marginpar, keyfloat, sidenotes, floatflt, and wrapfig.
    - fancybox \shadowbox, etc.
    - The LATEX and TEX logos.
  - Honors several booleans:
    - WPMarkFloats:** Marks the begin and end of floats.
    - WPMarkMinipages:** Marks the begin and end of minipages.
    - WPMarkTOC:** Marks the location of the Table of Contents.
    - WPMarkLOFT:** Marks the locations of the List of Figures/Tables.
    - WPMarkMath:** Prints LATEX math instead of using images.
    - WPTitleHeading:** Adjusts title and section headings.
- Several of these may be used to add markers to the HTML text which help determine where to adjust the word processor document after import.

## 11.2 Additional modifications

---

### WPMarkFloats

---

Bool WPMarkFloats  
Default: false

Adds  
===== begin table =====  
...  
===== end =====

or

===== begin figure =====  
...  
===== end =====

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

---

---

### WPMarkMinipages

---

Bool WPMarkMinipages

Default: false

Adds

```
==== begin minipage ====
 . . .
==== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

---

---

### WPMarkTOC

---

Bool WPMarkTOC

Default: true

While formatting for word processors, adds

```
==== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

*If set false, the actual toc is printed instead.*

---

---

### WPMarkLOFT

---

Bool WPMarkLOFT

Default: false

While formatting for word processors, adds

```
==== list of figures ==== and/or
==== list of tables ====
```

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

---

---

### WPMarkMath

---

siunitx

Bool WPMarkMath

Default: false

Prog TeXMaths

While formatting for word processors, prints math as LATEX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the siunitx package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for *AMS* math environments.

---

Table 11: Section HTML headings for word-processor conversion

| Section        | HTML headings* |                |                  |                |
|----------------|----------------|----------------|------------------|----------------|
|                | With \chapter  |                | Without \chapter |                |
|                | WPTitleHeading | WPTitleHeading | WPTitleHeading   | WPTitleHeading |
| Title          | <h1>           | plain          | <h1>             | plain          |
| \book          | <div>          | <div>          | <div>            | <div>          |
| \part          | <h2>           | <h1>           | <h2>             | <h1>           |
| \chapter       | <h3>           | <h2>           | —                | —              |
| \section       | <h4>           | <h3>           | <h3>             | <h2>           |
| \subsection    | <h5>           | <h4>           | <h4>             | <h3>           |
| \paragraph     | <h6>           | <h5>           | <h5>             | <h4>           |
| \ subparagraph | <span>         | <h6>           | <h6>             | <h5>           |

\* For default depths when not FormatWP, see table 12 on page 211.

### WPTitleHeading

Bool WPTitleHeading  
 Default: false  
 section headings

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 11 on page 194.

## 11.3 Recommendations

TOC, LOF, LOT For use with *LibreOffice Writer*, it is recommended to:

1. Set \booltrue{FormatWP}
2. Set \booltrue{WPMarkTOC} and \boolfalse{WPMarkLOFT}
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

**siunitx** For **siunitx**, remember to adjust the preamble as mentioned above.

**LO view border options** LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

## 11.4 Limitations

Floats and captions are not explicitly converted to LIBREOFFICE floats with their own captions. Floats are surrounded by a thin frame in the LIBREOFFICE editor, and may be marked with `WPMarkFloats`, but are not given a proper LIBREOFFICE object frame. Captions are given an explicit italic formatting, but not a proper LIBREOFFICE paragraph style.

Cross references are not actual LIBREOFFICE linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L<sup>A</sup>T<sub>E</sub>X and HTML versions.

Equation numbering is not automatic, but the equation numbers in SVG math will match the L<sup>A</sup>T<sub>E</sub>X and HTML output. SVG math is recommended when using the *AMS* environments, which may have multiple numbered equations per object.

As of when last checked, LIBREOFFICE ignores the following:

- Minipage alignment.
  - Tabular cell vertical alignment.
  - Image rotation and scaling.
  - Rounded border corners, which are also used by:
    - \textcircled
    - booktabs trim
  - \hspace and rules, also used by algorithmic.
  - Coloring of text decorations, used by soul and ulem.
  - Overline text decoration, used by romanbar.

LIBREOFFICE also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
  - Nested frames are not handled correctly.
  - Images inside boxes are not framed correctly.
  - Spans with background colors and frames are not displayed correctly.

## 12 Modifying lwarp

|                     |                                                                                                                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| locating something  | To quickly find the source for a package in <code>lwarp.dtx</code> , search for <code>*packagename</code> , such as <code>*siunitx</code> .                                                      |
|                     | Likewise, to quickly find the source for a file in <code>lwarp.dtx</code> , search for <code>*filename</code> , such as <code>*lwarp.css</code> .                                                |
|                     | Purely text-based packages probably will work as-is when generating HTML.                                                                                                                        |
|                     | Look to existing code for ideas on how to expand into new code.                                                                                                                                  |
| image of TeX output | An environment may be converted to a <code>\lateximage</code> then displayed with an image of the resulting LATEX output. See section 93 for an example of the <code>picture</code> environment. |
| css classes         | To create a custom HTML block or inline css class, see section 52.10.                                                                                                                            |
| print/HTML macros   | To create print and HTML versions of the same macro or environment, see section 36.                                                                                                              |
| ⚠ TEX boxes         | Any TeX boxes must be undone, as <code>svg</code> math or <code>\lateximages</code> require <code>\newpage</code> , which will not work in a TeX box.                                            |

### 12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

#### Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

Enter ⇒ `pdflatex lwarp.ins`

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

Enter ⇒ `pdflatex lwarp.dtx`

#### To make the development files visible to other projects:

Create the directory

`/usr/local/texlive/texmf-local/tex/latex/local/lwarp`

Inside this directory, create the file `update`, containing:

---

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

---

---

Run ./update now, and whenever a new lwarp-\* package is added.

**To make the development version of *lwarpmk* visible to other projects:**

---

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

---

Verify that the correct version is found with

Enter ⇒ **which lwarpmk**

**To make the local versions visible to the shell:**

Paths must be set by the shell startup, such as in .bashrc and .cshrc:

In .bashrc:

---

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

---

In .cshrc:

---

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

---

**To fully compile the lwarp documentation and indexes:**

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -- -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -- -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The second round of index processing is required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

## 12.2 Modifying a package for l warp

If a class loads additional packages, it will be required to modify the class for l warp, since l warp must be loaded before most other packages.

To work with l warp, a class must first set up anything which replicates the functions of the basic LATEX classes, load any required fonts, then load l warp, then finally load and adjust any other required packages.

When creating HTML, l warp redefines the \usepackage and \RequirePackage macros such that it first looks to see if a l warp-<packagename>.sty version exists. If so, the l warp version is used instead. This modular system allows users to create their own versions of packages for l warp to use for HTML, simply by creating a new package with a l warp- prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other l warp- packages where TEX can see it, then the user's new package will be seen by any documents using l warp. (Remember mktexlsr or texhash.)

An l warp-<packagename>.sty package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing l warp- packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new l warp- package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and @ characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each l warp-\* package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the l warp- version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the l warp- version continues loading as well. See section 456 (ntheorem) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a l warp- version.

### 12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent including in `lwarp`, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, [Supported packages and features](#), and also the Updates section.

## 12.3 Modifying a class for `lwarp`

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

## 12.4 Testing `lwarp`

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to `lwarpmk` or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins`
3. `pdflatex lwarp.dtx`
4. If modifying `lwarpmk` the new version should now be active.
5. If modifying css files:
  - (a) For the document, `lwarpmk` prints to update the css files in the project.
  - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the `<project>.html.pdf` file, which is the PDF containing HTML tags. Also, `<project>.html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and CSS code.

## 12.5 Modifying *lwarpmk*

Prog    `lwarpmk`  
File    `lwarpmk.lua`    In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing `lwarpmk` into a terminal.

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`.
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

## 13 Troubleshooting

### 13.1 lwarf package error conditions and warnings

lwarf tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

#### 13.1.1 Configuration file `lwarpmk.conf`

**File does not exist:** The configuration file must exist for `lwarpmk`.

**Incorrect Unix /Windows selection:** The operating system which was detected by lwarf. So far only Unix and Windows are supported.

**Incorrect delimiter characters.** Older versions of `lwarpmk` used a different delimiter.

**Source name is set to lwarf:** lwarf has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in lwarf's source directory.

**Incorrect operating system:** The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

**Outdated configuration files:** lwarf has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

**The designated source file does not exist:** For whatever reason...

**Unknown engine:** lwarf cannot determine which engine is being used. Supported are DVI L<sup>A</sup>T<sub>E</sub>X, PDF L<sup>A</sup>T<sub>E</sub>X, XE<sup>L</sup>L<sup>A</sup>T<sub>E</sub>X, LuaL<sup>A</sup>T<sub>E</sub>X, and upL<sup>A</sup>T<sub>E</sub>X.

#### 13.1.2 Image generation with `lwarpmk limages`

**“Wait a moment for the images to complete before reloading page.”:**

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

**HTML version does not exist:** Images are extracted from the HTML version, which must be compiled before images are generated.

**\*-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or lateximages were used. If so, `lwarpmk limages` is not necessary.

**Cross references are not correct:** The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

**“WARNING: Images will be incorrect.”:** An image reference was not found. Recompile.

**l warpmk epstopdf \*** or **l warpmk pdftosvg \***: Errors if filenames are not found.

### 13.1.3 Default bitmapped font

l warp requires the use of a vector font. If l warp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

### 13.1.4 Packages

**Loaded before l warp:** Some packages and classes must be loaded before l warp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

**Loaded after l warp:** Most packages which are modified by l warp must be loaded after l warp.

**Loaded never:** Some packages do not work with l warp. An error is generated, along with a list of alternatives to consider.

**Specific packages:** Some packages enforce a specific load order vs. certain other packages.

**Patching error:** l warp tries to patch some packages using xpatch. If the original package has been updated more recently than l warp, a patch may not work. It may be necessary to use an older version of the package until l warp is updated.

**longtable:** l warp’s longtable package issues detailed error messages regarding the use of the table headers and footers.

**polyglossia:** If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

**babel or polyglossia:** An informative message is printed to note that not all langauges are supported by cleveref.

### 13.1.5 Compiling

**SideTOCDepth < FileDepth:** A warning is displayed if these counters are set such that the sidetoc will not be able to access all pages of the website.

**Filenames:** l warp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

-  **HTML corrupted**
- Mutirow:** When `\multirow` or `\multicolumn` are used, `\mrowcell` or `\mcolrowcell` must be placed in the appropriate cells to avoid corrupted HTML output.
  - (width,height) missing a comma:** `\makebox` and `\framebox` can accept a parenthesis-delimited width and height, which must be separated by a comma.
  - "Load graphicx or graphics for improved svg math baselines.":** SVG math sizing and baselines are improved if either of these packages are used.
  - "Load graphicx or graphics for improved XeTeX logo.":** If these packages are loaded, the XE<sup>T</sup>EX logo can use the reversed "E".
  - "It is recommended to use [width=xx\linewidth] instead of [scale=yy] ":** Browser support of scale does not have the same effect as in L<sup>A</sup>T<sub>E</sub>X.

## 13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

- [Section 7.11: Commands to be placed into the warpprint environment](#)
- [Section 8: Special cases and limitations](#)

-  **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section [7.4](#) regarding bitmapped vs. vector fonts.
- See section [8.2.1](#) regarding HTML entities and the characters &, <, and >.

-  **dotless** **j (\j):** See section [7.4](#) regarding cmap, mmap.

**Undefined HTML settings:**

- See the warning regarding the placement of the HTML settings at section [7.6](#).

**Tabular problems:** See section [8.10.1](#).

**Obscure error messages:**

**Print first:** Be sure that a print version of the document compiles and that your document's L<sup>A</sup>T<sub>E</sub>X code is correct, before attempting to generate an HTML version.

**\end{warpHTML}, \end{warpprint}, \end{warpall}, \end{warpMathJax}:**  
Each of these must be without any other characters on the same line.

**"Runaway argument? File ended while scanning use of \next:**  
Don't use warpHTML, warpprint, warpall, or warpMathJax inside itself.

**Options clash:** If using memoir, see section [8.13](#).

**"Missing \begin{document}.":** Some packages require that their options be specified before lwarp is loaded, or via the package's setup macro, especially if these options include the use of braces. See section [8.1](#).

**“No room for a new \write.”:** Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup[allocate=10]
```

**“! TeX capacity exceeded, sorry [text input levels=15].”:** Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

**“Missing \$ inserted.”:** If using a filename or URL in a footnote or `\item`, escape underscores with `\_`.

**“Label(s) may have changed. Rerun to get cross-references right.”:**

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as `$X=1$` may be replaced with

```
\textit{X}\,=\,\!,1
```

**“Temporary page! LaTeX was unable to guess the total number of pages ...”:**  
Harmless. Recompile the document one more time.

**“Leaders not followed by proper glue”:**

This can be caused by a missing `\@fleattype` or `\@sectiontype` definition. See `lwarp`'s definitions for examples.

**“Improper \prevdepth”:** `lateximages` and `svg` math require `\newpage`, which cannot work inside TeX boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `\rbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

**“! Undefined control sequence. . . . \\_\_hook begindocument”:**  
See section 8.15.4 if using `polyglossia`.

**“\begin{equation} ended by \end{document}”:** Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
...
\end{equation}
```

**“Misplaced \omit”:** If using `\LWR@formatted` to define new macros for print and HTML modes, see section 36 regarding `\LWR@expandableformatted`.

`LWR@texboxdepth`

⚠️ macros in section, table,  
figure names

⚠️ BibTeX

⚠️ polyglossia

⚠️ custom macros for  
environments

⚠️ `\LWR@formatted`

**"Token not allowed in a PDF string":** This hyperref warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. hyperref removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the TeX text, v.s. the PDF bookmark. See the [hyperref manual](#).

⚠ quote character

**"Command \textquoteright invalid in math mode":** This can occur when the document source has math containing the slanted quote ' character, instead of using the upright quote ' character.

⚠ "impure" math objects

**Complicated objects inside math:** Some objects, such as Tikz, may not compile in lwarf's normal math emulation. Insert

`\displaymathother — or — \inlinemathother`

before the math, and then

`\displaymathnormal — or — \inlinemathnormal`

when displaying "normal" math. See section [8.7.9](#).

**Slow compilation of math objects:** Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ **MATHJAX** **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to "normal" display math. See section [8.7.9](#).

**Missing sections:** See section [7.6](#) regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

**Misnumbered footnotes from section headings:** See section [8.5.4](#).

**Missing HTML files:**

- See the warning regarding changes to the HTML settings at section [7.6](#).
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section [7.6](#).

**Missing / incorrect cross-references:**

- Use `lwarfmk` again followed by `lwarfmk html` or `lwarfmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French). `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to "for".

**labels**

⚠ **label characters**

`\nameref`

⚠ **empty link**

⚠ **cleveref** page numbers

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
```

“pages **for** table 4.1 and **for** table 4.2”

See \cpagerefFor at page 773 to redefine the message which is printed for page number references.

**BibTeX errors with \etalchar:** See section 8.6.9.

**Malformed URLs:** Do not use the % character between arguments of \hyperref, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

**Em-dashes or En-dashes in listing captions and titles:**

Use X<sub>EL</sub>LATEX or LualATEX.

**Floats out of sequence:**

**Mixed “Here” and floating:** Floats [H]ere and regular floats may become out of order. \clearpage if necessary.

**Caption setup:** With \captionsetup set the positions for the captions above or below to match their use in the source code.

**Images are appearing in strange places:**

- When images are added or removed, Enter **lwarpmk limages** to refresh the `lateimage` images.

**svg images:**

⚠ adding/removing

When a math expression, picture, or Tikz environment is added or removed, the SVG images must be re-created by entering **lwarpmk limages** to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but display math and objects such as Tikz may move to new image numbers when the document is changed.

recompile first

Before attempting to create the SVG image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.<sup>16</sup> If it is necessary to recompile the document’s HTML version one more time, *lwarpmk* usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the LATEX recompile warnings.

⚠ HTML instead of images

If HTML appears where an SVG image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect SVG images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

Expressing math as SVG images has the advantage of representing the math exactly as LATEX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, lwarp uses an MD5 hash on its LATEX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments

---

<sup>16</sup>This becomes important when dealing with a document containing thousands of images.

such as picture and Tikz require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

#### Plain-looking document:

- The document's css stylesheet may not be available, or may be linked incorrectly. Verify any \CSSFilename statements point to a valid css file.

⚠ HTML corrupted ⚠ **Broken fragments of HTML:**

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

#### Changes do not seem to be taking effect:

- Be sure to lwarpmk clean, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper css is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

#### Un-matched conditional compiles:

- Verify the proper begin/end of warpprint, warpHTML, and warpall environments.

#### 13.2.1 Debug tracing output

\tracingl warp When \tracingl warp is used, l warp will add extra tracing messages to the .log file. The last several messages may help track down errors.

Place \tracingl warp just after \usepackage{l warp} to activate tracing.

### 13.3 Compiling the l warp .dtx file

**l warp\_tutorial.tex:** Copy or link l warp\_tutorial.txt from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

#### Illogical error messages caused by an out-of-sync l warp .sty file:

1. Delete the l warp.sty file.
2. Enter **pdflatex l warp.ins** to generate a new l warp.sty file.
3. Enter **pdflatex l warp.dtx** to recompile the l warp.pdf documentation.

#### Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

## 14 Trademarks

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File 1 **lwarp.sty**

## 15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of crude hacks clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to `HTML` color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by `pdftotext`.

Packages were emulated where their primary purpose was visual formatting which is not relevant to `HTML` output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in `HTML` output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 12: Section depths and HTML headings

| Section                     | L <small>A</small> T <small>E</small> X<br>depth | HTML headings *                           |
|-----------------------------|--------------------------------------------------|-------------------------------------------|
| Title of the entire website |                                                  | <h1>                                      |
| (none)                      | -5                                               | new for this package                      |
| book                        | -2                                               | <div class = "book">                      |
| part                        | -1                                               | <h2>                                      |
| chapter                     | 0                                                | <h3>                                      |
| section                     | 1                                                | <h4>                                      |
| subsection                  | 2                                                | <h5>                                      |
| subsubsection               | 3                                                | <h6>                                      |
| paragraph                   | 4                                                | <span class = "paragraph">                |
| subparagraph                | 5                                                | <span class = "subparagraph">             |
| listitem                    | 7                                                | new for this package, used for list items |

\* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 11 on page 194.

## 16 Section depths and HTML headings

Stacks are created to track depth inside the LATEX document structure. This depth is translated to HTML headings as shown in table 12. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the LATEX document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the css to remain fixed as well.

## 17 Source code

This is where the documented source code for l warp begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the l warp package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the l warp.sty file.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

**Prog L warp** Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

**for HTML output:** Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

**for PRINT output:**

**for HTML & PRINT:**

## 18 Detecting the T<sub>E</sub>X engine — *pdflatex*, *lualatex*, *xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X<sub>E</sub>T<sub>E</sub>X and L<sub>U</sub>AL<sub>T</sub><sub>E</sub>X:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8 \xetexorluatextrue
9 \else
10 \ifLuaTeX
11 \xetexorluatextrue
12 \else
13 \xetexorluatexfalse
14 \fi
15 \fi

```

## 19 Early package requirements

Pkg `etoolbox` Provides `\ifbool` and other functions.

Pkg `xpatch` Patches macros with optional arguments.

```

16 \RequirePackage{etoolbox}[2011/01/03]%
17 \RequirePackage{xpatch}

```

Pkg `ifplatform` Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```
18 \RequirePackage{ifplatform}%

```

Pkg `letltxmacro`

```
19 \RequirePackage{letltxmacro}
```

## 20 Package load order

Several packages must never be used with `l warp`, others should only be loaded before `l warp`, and others should only be loaded after. The `l warp` core checks most of these cases. In some `l warp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `l warp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

## 20.1 Tests of package load order

`\LWR@loadafter {<packagename>}` Error if this package was loaded before `lwarp`.

```

20 \newcommand*{\LWR@Loadafter}[1]{%
21 \@ifpackageloaded{#1}%
22 {%
23 \PackageError{lwarp}%
24 {%
25 Package #1,\MessageBreak
26 or one which uses #1,\MessageBreak
27 must be loaded after Lwarp.\MessageBreak
28 Enter 'H' for possible solutions%
29 }%
30 {%
31 Move ``\protect\usepackage{#1}'' after
32 ``\protect\usepackage{lwarp}''.\MessageBreak
33 Package #1 may also be loaded by something else,\MessageBreak
34 which must also be moved after Lwarp.%%
35 }%
36 }%
37 {\relax}%
38 }
```

`\LWR@notmemoirloadafter {<packagename>}` Error if not `memoir` class and this package was loaded before `lwarp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

39 \@ifclassloaded{memoir}%
40 {\newcommand*{\LWR@notmemoirloadafter}[1]{}}
41 {\LetLtxMacro{\LWR@notmemoirloadafter}{\LWR@loadafter}}
```

`\LWR@notltjloadafter {<packagename>}` Error if not a `ltjs*` class and this package was loaded before `lwarp`.

```

42 \LetLtxMacro{\LWR@notltjloadafter}{\LWR@loadafter}
43
44 \@ifclassloaded{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
45 \@ifclassloaded{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
46 \@ifclassloaded{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
47 \@ifclassloaded{ltjsarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
48 \@ifclassloaded{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
49 \@ifclassloaded{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}}
```

```

50 \@ifclassloaded{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
51 \@ifclassloaded{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
52 \@ifclassloaded{ltjtarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
53 \@ifclassloaded{ltjtbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
54 \@ifclassloaded{ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}

```

\LWR@loadbefore {*packagename*} Error if this package is loaded after lwarp.

```

55 \newcommand*{\LWR@Loadbefore}[1]{%
56 \@ifpackageloaded{#1}{%
57 {\relax}%
58 {%
59 \PackageError{lwarp}{%
60 Package #1 must be loaded before lwarp.\MessageBreak
61 Enter 'H' for possible solutions%
62 }%
63 {Move ``\protect\usepackage{#1}'' before ``\protect\usepackage{lwarp}''.%}
64 }%
65 }%
66 }

```

\LWR@checkloadbefore {*packagename*}

Given \LWR@tempone is the package name to compare to, if package names match, error if it is loaded after lwarp.

```

67 \newcommand*{\LWR@checkloadbefore}[1]{%
68 \ifdefstring{\LWR@tempone}{#1}{%
69 \LWR@loadbefore{#1}%
70 }{}%
71 }

```

\LWR@loadnever {*badpackagename*} {*replacementpkgnames*}

The first packages is not supported, so tell the user to use the second instead. Factored from \LWR@checkloadnever and \LWR@earlyloadnever.

```

72 \newcommand*{\LWR@loadnever}[2]{%
73 \PackageError{lwarp}{%
74 {%
75 Package #1 is not yet supported\MessageBreak
76 by lwarp's HTML conversion%
77 \ifblank{#2}{}{%
78 .\MessageBreak
79 Package(s)\MessageBreak
80 \space\space#2\MessageBreak
81 may be useful instead%
82 }%
83 }%
84 {%
85 Package #1 might conflict with lwarp in some way,\MessageBreak
86 or is superceded by another package.%
87 \ifblank{#2}{}{%

```

```

88 \MessageBreak
89 For possible alternatives, see package(s) #2.%%
90 }%
91 }%
92 }

```

\LWR@afterloadnever {*<badpackagename>*} {*<replacementpkgnames>*}

Given: \LWR@tempone is set to the package name being tested against, if this package name is the bad packagename, suggest the replacements instead. This is used when loading packages after lwarp.

```

93 \newcommand*{\LWR@afterloadnever}[2]{%
94 \ifdefstring{\LWR@tempone}{#1}{%
95 \LWR@loadnever{#1}{#2}%
96 }{}%
97 }

```

\LWR@earlyloadnever {*<badpackagename>*} {*<replacementpkgnames>*}

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before lwarp.

```

98 \newcommand*{\LWR@earlyloadnever}[2]{%
99 \@ifpackageloaded{#1}{%
100 \LWR@loadnever{#1}{#2}%
101 }{}%
102 }

```

\LWR@earlyclassloadnever {*<badclassname>*} {*<replacementclassname>*}

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before lwarp.

```

103 \newcommand*{\LWR@earlyclassloadnever}[2]{%
104 \@ifclassloaded{#1}{%
105 \PackageError{lwarp}%
106 {}%
107 Class #1 is not supported\MessageBreak
108 by lwarp's HTML conversion%
109 \ifblank{#2}{}{%
110 .\MessageBreak
111 #2 may be useful instead%
112 }%
113 }%
114 {}%
115 Class #1 might conflict with lwarp in some way,\MessageBreak
116 or is superceded by another class.%%
117 \ifblank{#2}{}{%
118 \MessageBreak
119 For a possible alternative, see #2.%%
120 }%
121 }

```

```

122 }{\relax}%
123 }

```

## 20.2 Error for disallowed packages and classes loaded before l warp

\LWR@checkloadnevers Checks against a list of incompatible packages.

```

124 \newcommand*\LWR@checkloadnevers{%
125 \LWR@checkloadnever{ae}{cm-super, lmodern}%
126 \LWR@checkloadnever{aecmpl}{cm-super, lmodern}%
127 \LWR@checkloadnever{aecc}{cm-super, lmodern}%
128 \LWR@checkloadnever{alg}{algorithm2e, algorithmicx}%
129 \LWR@checkloadnever{algorithmic}{algorithm2e, algorithmicx}%
130 \LWR@checkloadnever{bitfield}{bytefield}%

```

`bxcjkjatype` is based on CJK:

```

131 \LWR@checkloadnever{bxcjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}%
132 \LWR@checkloadnever{caption2}{caption}%
133 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
134 \LWR@checkloadnever{colortab}{colortbl}%
135 \LWR@checkloadnever{csvtools}{datatool}%
136 \LWR@checkloadnever{doublespace}{setspace}%
137 \LWR@checkloadnever{fancyheadings}{fancyhdr}%
138 \LWR@checkloadnever{fncylab}{cleveref}%
139 \LWR@checkloadnever{formula}{siunitx}%
140 \LWR@checkloadnever{glossary}{glossaries}%

```

`hangul` is not in TeXLive, and is not tested:

```

141 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}%
142 \LWR@checkloadnever{hyper}{hyperref}%
143 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}%
144 \LWR@checkloadnever{newthm}{ntheorem}%
145 \LWR@checkloadnever{pdflcprot}{microtype}%
146 \LWR@checkloadnever{picins}{floatflt, wrapfig}%
147 \LWR@checkloadnever{rplain}{fancyhdr}%
148 \LWR@checkloadnever{si}{siunitx}%
149 \LWR@checkloadnever{sistyle}{siunitx}%
150 \LWR@checkloadnever{slashbox}{diagbox}%
151 \LWR@checkloadnever{statex}{statex2}%
152 \LWR@checkloadnever{t1enc}{fontenc, inputenc, inputenx}%
153 \LWR@checkloadnever{ucs}{inputenc, inputenx}%
154 \LWR@checkloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}%

```

The following may one day be supported by l warp:

```

155 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
156 \LWR@checkloadnever{animate}{}%

```

157 \LWR@checkloadnever{auto-pst-pdf}{}  
158 \LWR@checkloadnever{auto-pst-pdf-lua}{}  
159 \LWR@checkloadnever{algorithms}{}  
160 \LWR@checkloadnever{arraycols}{}  
161 \LWR@checkloadnever{bidi}{}  
162 \LWR@checkloadnever{cals}{}  
163 \LWR@checkloadnever{cellspace}{}  
164 \LWR@checkloadnever{cgloss4e}{}  
165 \LWR@checkloadnever{collcell}{}  
166 \LWR@checkloadnever{colophon}{}  
167 \LWR@checkloadnever{cooltooltips}{}  
168 \LWR@checkloadnever{covington}{}  
169 \LWR@checkloadnever{crbox}{}  
170 \LWR@checkloadnever{decision-table}{}  
171 \LWR@checkloadnever{dvgloss}{}  
172 \LWR@checkloadnever{ednotes}{}  
173 \LWR@checkloadnever{edfnotes}{}  
174 \LWR@checkloadnever{eledform}{}  
175 \LWR@checkloadnever{eledmac}{}  
176 \LWR@checkloadnever{embedfile}{}  
177 \LWR@checkloadnever{endnotes-hy}{endnotes}{}  
178 \LWR@checkloadnever{expex}{}  
179 \LWR@checkloadnever{fancytooltips}{}  
180 \LWR@checkloadnever{fixocgx}{}  
181 \LWR@checkloadnever{flowfram}{}  
182 \LWR@checkloadnever{gb4e}{}  
183 \LWR@checkloadnever{gmverse}{}  
184 \LWR@checkloadnever{graphbox}{}  
185 \LWR@checkloadnever{graphicxbox}{}  
186 \LWR@checkloadnever{hvfloat}{}  
187 \LWR@checkloadnever{inline-images}{}  
188 \LWR@checkloadnever{isorot}{rotating}{}  
189 \LWR@checkloadnever{ledmac}{}  
190 \LWR@checkloadnever{linguex}{}  
191 \LWR@checkloadnever{longdiv}{}  
192 \LWR@checkloadnever{longfigure}{}  
193 \LWR@checkloadnever{longtabu}{}  
194 \LWR@checkloadnever{mdwenv}{}  
195 \LWR@checkloadnever{mdwlist}{}  
196 \LWR@checkloadnever{mdwtab}{}  
197 \LWR@checkloadnever{navigator}{}  
198 \LWR@checkloadnever{nccpic}{}  
199 \LWR@checkloadnever{nccsect}{}  
200 \LWR@checkloadnever{newvbtm}{}  
201 \LWR@checkloadnever{ocg-p}{}  
202 \LWR@checkloadnever{ocgtools}{}  
203 \LWR@checkloadnever{ocgx}{}  
204 \LWR@checkloadnever{ocgx2}{}  
205 \LWR@checkloadnever{parrun}{}  
206 \LWR@checkloadnever{poemscol}{}  
207 \LWR@checkloadnever{poetry}{}  
208 \LWR@checkloadnever{program}{}  
209 \LWR@checkloadnever{proofread}{}  
210 \LWR@checkloadnever{pst-pdf}{}  
211 \LWR@checkloadnever{refstyle}{}{}

```

212 \LWR@checkloadnever{robustindex}{}
213 \LWR@checkloadnever{robustglossary}{}
214 \LWR@checkloadnever{semioneside}{}
215 \LWR@checkloadnever{slempf}{}
216 \LWR@checkloadnever{snotez}{sidenotes}
217 \LWR@checkloadnever{spacingtricks}{}
218 \LWR@checkloadnever{sverb}{verbatim, fancyvrb}
219 \LWR@checkloadnever{syntax}{}
220 \LWR@checkloadnever{tablists}{}
221 \LWR@checkloadnever{tabto}{}
222 \LWR@checkloadnever{tabu}{}
223 \LWR@checkloadnever{tabularht}{}
224 \LWR@checkloadnever{tabularkv}{}
225 \LWR@checkloadnever{thumby}{}
226 \LWR@checkloadnever{titles}{}
227 \LWR@checkloadnever{typehtml}{}
228 \LWR@checkloadnever{unicode-bidi}{}
229 \LWR@checkloadnever{vcell}{}
230 \LWR@checkloadnever{xhfill}{}
231 }

```

\LWR@checkloadnever {*<badpackagename>*} {*<replacementpkgnname>*}

The first package is not supported, so tell the user to use the second instead.

When **l warp** is first loaded, this is set to \LWR@earlyloadnever to check for incompatible packages which were loaded before **l warp**. After **l warp** is loaded, this is changed to \LWR@afterloadnever to check for incompatible packages during \usepackage.

```
232 \LetLtxMacro{\LWR@checkloadnever}{\LWR@earlyloadnever}
```

Now check for incompatible packages which have been loaded before **l warp**:

```
233 \LWR@checkloadnevers
```

The older **CJK** and **CJKutf8** only work with **xeCJK**:

```

234 \@ifpackageloaded{xeCJK}{}{
235 \LWR@checkloadnever{CJK}{ctex, xeCJK}
236 \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
237 }
```

Some classes do not work with **l warp**:

```

238 \LWR@earlyclassloadnever{beamer}{beamerarticle}
239 \LWR@earlyclassloadnever{jarticle}{ujarticle}
240 \LWR@earlyclassloadnever{jbook}{ujbook}
241 \LWR@earlyclassloadnever{jreport}{ujreport}
242 \LWR@earlyclassloadnever{tarticle}{utarticle}
243 \LWR@earlyclassloadnever{tbook}{utbook}
244 \LWR@earlyclassloadnever{treport}{utreport}
245 \LWR@earlyclassloadnever{novel}{}
246 \LWR@earlyclassloadnever{powerdot}{}
```

### 20.3 Enforcing package loading after l warp

Packages which should only be loaded after l warp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after l warp:

```
247 \LWR@loadafter{2in1}
248 \LWR@loadafter{2up}
249 \LWR@loadafter{a4}
250 \LWR@loadafter{a4wide}
251 \LWR@loadafter{a5comb}
252 \LWR@notmemoirloadafter{abstract}
253 \LWR@loadafter{academicons}
254 \LWR@loadafter{accents}
255 \LWR@loadafter{accessibility}
256 \LWR@loadafter{accsupp}
257 \LWR@loadafter{acro}
258 \LWR@loadafter{acronym}
259 \LWR@loadafter{adjmulticol}
260 \LWR@loadafter{addlines}
261 \LWR@loadafter{afterpage}
262 \LWR@loadafter{algorithm2e}
263 \LWR@loadafter{algorithmicx}
264 \LWR@loadafter{alltt}
265 \LWR@loadafter{amscdx}
266 % \LWR@loadafter{amsmath}% may be preloaded
267 % \LWR@loadafter{amsthm}% may be preloaded
268 \LWR@loadafter{anonchap}
269 \LWR@loadafter{any size}
270 \LWR@notmemoirloadafter{appendix}
271 \LWR@loadafter{ar}
272 \LWR@loadafter{arabicfront}
273 \LWR@notmemoirloadafter{array}
274 \LWR@loadafter{arydshln}
275 \LWR@loadafter{asymptote}
276 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
277 \LWR@loadafter{attachfile}
278 \LWR@loadafter{attachfile2}
279 \LWR@loadafter{authblk}
280 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
281 \LWR@loadafter{autobreak}
282 \LWR@loadafter{autonum}
283 \LWR@loadafter{awesomebox}
284 \LWR@loadafter{axessibility}
285 \LWR@loadafter{axodraw2}
286 \LWR@loadafter{backnaur}
287 \LWR@loadafter{backref}
288 \LWR@loadafter{balance}
289 \LWR@loadafter{bbding}
290 \LWR@loadafter{beamerarticle}
291 \LWR@loadafter{bigdelim}
292 \LWR@loadafter{bigfoot}
293 \LWR@loadafter{bigstrut}
294 \LWR@loadafter{bitpattern}
```

```
295 \LWR@loadaft{blowup}
296 \LWR@loadaft{bm}
297 \LWR@loadaft{booklet}
298 \LWR@loadaft{bookmark}
299 \LWR@notmemoirloadaft{booktabs}
300 \LWR@loadaft{bophook}
301 \LWR@loadaft{bounddvi}
302 \LWR@loadaft{boxedminipage}
303 \LWR@loadaft{boxedminipage2e}
304 \LWR@loadaft{braket}
305 \LWR@loadaft{breakurl}
306 \LWR@loadaft{breqn}
307 \LWR@loadaft{bsheaders}
308 \LWR@loadaft{bussproofs}
309 \LWR@loadaft{bxpapersize}
310 \LWR@loadaft{bytefield}
311 \LWR@loadaft{ccicons}
312 \LWR@loadaft{cancel}
313 \LWR@loadaft{canoniclayout}
314 \LWR@loadaft{caption}
315 \LWR@loadaft{caption2}
316 \LWR@loadaft{caption3}
317 \LWR@loadaft{cases}
318 % catoptions is supported by the lwarf core
319 % \LWR@loadaft{ccaption} may be preloaded by memoir
320 \LWR@loadaft{centerlastline}
321 % \LWR@loadaft{centernot} may be preloaded by newtx
322 \LWR@loadaft{changebar}
323 \LWR@loadaft{changelayout}
324 \LWR@notmemoirloadaft{changepage}
325 \LWR@loadaft{changes}
326 \LWR@loadaft{chappg}
327 \LWR@loadaft{chapterbib}
328 \LWR@loadaft{chemfig}
329 \LWR@loadaft{chemformula}
330 \LWR@loadaft{chemgreek}
331 \LWR@loadaft{chemmacros}
332 \LWR@loadaft{chemnum}
333 \LWR@loadaft{chkfloat}
334 \LWR@notmemoirloadaft{chngpage}
335 \LWR@loadaft{cite}
336 \LWR@loadaft{citeref}
337 \LWR@loadaft{classicthesis}
338 \LWR@loadaft{cleveref}
339 % cmbright may be preloaded
340 \LWR@loadaft{cmdtrack}
341 \LWR@loadaft{colonequals}
342 \LWR@loadaft{color}
343 \LWR@loadaft{colortbl}
344 \LWR@loadaft{continue}
345 \LWR@loadaft{copyrightbox}
346 \LWR@notmemoirloadaft{crop}
347 % ctex must be loaded before lwarf
348 \LWR@loadaft{ctable}
349 \LWR@loadaft{cuted}
```

```
350 \LWR@loadafter{cutwin}
351 \LWR@loadafter{dblfloatfix}
352 \LWR@loadafter{dblfnote}
353 \LWR@notmemoirloadafter{dcolumn}
354 \LWR@loadafter{decimal}
355 \LWR@loadafter{decorule}
356 \LWR@loadafter{diagbox}
357 \LWR@loadafter{dingbat}
358 \LWR@loadafter{DotArrow}
359 \LWR@loadafter{dotlessi}
360 \LWR@loadafter{dprogress}
361 \LWR@loadafter{draftcopy}
362 \LWR@loadafter{draftfigure}
363 \LWR@loadafter{draftwatermark}
364 \LWR@loadafter{drftcite}
365 \LWR@loadafter{easy-todo}
366 \LWR@loadafter{ebook}
367 \LWR@loadafter{econometrics}
368 \LWR@loadafter{ed}
369 \LWR@loadafter{ellipsis}
370 \LWR@loadafter{embrac}
371 \LWR@loadafter{emptypage}
372 \LWR@loadafter{endfloat}
373 \LWR@loadafter{endheads}
374 \LWR@loadafter{endnotes}
375 \LWR@loadafter{engtlc}
376 \LWR@loadafter{enotez}
377 \LWR@notmemoirloadafter{enumerate}
378 \LWR@loadafter{enumitem}
379 \LWR@notmemoirloadafter{epigraph}
380 \LWR@loadafter{epsf}
381 \LWR@loadafter{epsfig}
382 \LWR@loadafter{epstopdf}
383 \LWR@loadafter{epstopdf-base}
384 \LWR@loadafter{eqlist}
385 \LWR@loadafter{eqparbox}
386 \LWR@loadafter{errata}
387 \LWR@loadafter{eso-pic}
388 \LWR@loadafter{esvect}
389 \LWR@loadafter{etoc}
390 \LWR@loadafter{eurosym}
391 \LWR@loadafter{everypage}
392 % \LWR@loadafter{everyshi} % now in LaTeX core
393 \LWR@loadafter{extarrows}
394 \LWR@loadafter{extramarks}
395 \LWR@loadafter{fancybox}
396 \LWR@loadafter{fancyhdr}
397 \LWR@loadafter{fancypar}
398 \LWR@loadafter{fancyref}
399 \LWR@loadafter{fancytabs}
400 \LWR@loadafter{fancyvrb}
401 \LWR@loadafter{fbox}
402 \LWR@loadafter{fewerfloatpages}
403 \LWR@loadafter{figcaps}
404 \LWR@loadafter{figsize}
```

```
405 \LWR@loadaft er{fitbox}
406 \LWR@loadaft er{fix2col}
407 \LWR@loadaft er{fixmath}
408 \LWR@loadaft er{fixme}
409 \LWR@loadaft er{fixmetodonotes}
410 \LWR@loadaft er{flafter}
411 \LWR@loadaft er{flippdf}
412 \LWR@loadaft er{float}
413 \LWR@loadaft er{floatflt}
414 \LWR@loadaft er{floatpag}
415 \LWR@loadaft er{floatrow}
416 \LWR@loadaft er{fltrace}
417 \LWR@loadaft er{flushend}
418 \LWR@loadaft er{fnbreak}
419 \LWR@loadaft er{fncychap}
420 \LWR@loadaft er{fnlineno}
421 \LWR@loadaft er{fnpara}
422 \LWR@loadaft er{fnpos}
423 \LWR@loadaft er{fontawesome}
424 \LWR@loadaft er{fontawesome5}
425 % fontenc must be loaded before l warp
426 % fonts spec must be loaded before l warp
427 \LWR@loadaft er{footmisc}
428 \LWR@loadaft er{footnote}
429 \LWR@loadaft er{footnotebackref}
430 \LWR@loadaft er{footnotehyper}
431 \LWR@loadaft er{footnoterange}
432 \LWR@loadaft er{footnpag}
433 \LWR@loadaft er{foreign}
434 \LWR@loadaft er{forest}
435 \LWR@loadaft er{fouridx}
436 % fourier may be loaded before l warp
437 \LWR@loadaft er{framed}
438 \LWR@loadaft er{froufrou}
439 \LWR@loadaft er{ftcap}
440 \LWR@loadaft er{ftnright}
441 \LWR@loadaft er{fullminipage}
442 \LWR@loadaft er{fullpage}
443 \LWR@loadaft er{fullwidth}
444 \LWR@loadaft er{fvextra}
445 \LWR@loadaft er{fwlw}
446 \LWR@loadaft er{gensymb}
447 \LWR@loadaft er{gentombow}
448 % geometry is always loaded by l warp, and l warp-geometry is AtBeginDocument
449 \LWR@loadaft er{ghsystem}
450 \LWR@loadaft er{gindex}
451 \LWR@loadaft er{glossaries}
452 \LWR@loadaft er{gmeometric}
453 % \LWR@loadaft er{graphics} % pre-loaded by xunicode
454 % \LWR@loadaft er{graphicx} % pre-loaded by xunicode
455 \LWR@loadaft er{gloss}
456 \LWR@loadaft er{glossary}
457 \LWR@loadaft er{grffile}
458 \LWR@loadaft er{grid}
459 \LWR@loadaft er{grid-system}
```

```
460 \LWR@loadaft er{gridset}
461 \LWR@loadaft er{hang}
462 \LWR@loadaft er{hanging}
463 \LWR@loadaft er{hepunits}
464 \LWR@loadaft er{hhline}
465 \LWR@loadaft er{hhtensor}
466 \LWR@loadaft er{hypbmsec}
467 \LWR@loadaft er{hypcap}
468 \LWR@loadaft er{hypdestopt}
469 \LWR@loadaft er{hypernat}
470 \LWR@loadaft er{hyperref}
471 \LWR@loadaft er{hyperxmp}
472 \LWR@loadaft er{hyphenat}
473 \LWR@loadaft er{idxlayout}
474 \LWR@loadaft er{ifoddpage}
475 \LWR@loadaft er{imakeidx}
476 \LWR@loadaft er{impnattypo}
477 \LWR@notmemoirloadaft er{index}
478 % inputenc must be loaded before l warp
479 % inputenx must be loaded before l warp
480 % inputtrc may be loaded before l warp
481 \LWR@loadaft er{intopdf}
482 \LWR@loadaft er{isomath}
483 \LWR@loadaft er{isotope}
484 \LWR@loadaft er{jurabib}
485 \LWR@loadaft er{karnaugh-map}
486 \LWR@loadaft er{keyfloat}
487 \LWR@loadaft er{keystroke}
488 % kpfonts may be loaded before l warp
489 % kpfonts-otf may be loaded before l warp
490 \LWR@loadaft er{layaureo}
491 \LWR@loadaft er{layout}
492 \LWR@loadaft er{layouts}
493 \LWR@loadaft er{leading}
494 \LWR@loadaft er{leftidx}
495 \LWR@loadaft er{letterspace}
496 \LWR@loadaft er{lettrine}
497 % libertinust1math may be loaded before l warp
498 \LWR@loadaft er{lineno}
499 \LWR@loadaft er{lips}
500 \LWR@loadaft er{listings}
501 \LWR@loadaft er{listliketab}
502 \LWR@loadaft er{lltjp-tascmac}
503 \LWR@loadaft er{longtable}
504 \LWR@loadaft er{lpic}
505 \LWR@loadaft er{lscape}
506 \LWR@loadaft er{ltablex}
507 \LWR@loadaft er{ltcaption}
508 \LWR@loadaft er{ltxgrid}
509 \LWR@loadaft er{ltxtable}
510 \LWR@loadaft er{lua-check-hyphen}
511 \LWR@loadaft er{lua-visual-debug}
512 \LWR@loadaft er{luacolor}
513 \LWR@loadaft er{luamplib}
514 \LWR@loadaft er{luatodonotes}
```

```
515 \LWR@loadafter{luavlna}
516 \LWR@loadafter{lyluatex}
517 \LWR@loadafter{magaz}
518 \LWR@notmemoirloadafter{makeidx}
519 \LWR@loadafter{manyfoot}
520 \LWR@loadafter{marginfit}
521 \LWR@loadafter{marginfix}
522 \LWR@loadafter{marginnote}
523 \LWR@loadafter{marvosym}
524 % mathalpha may be loaded before lwarf
525 \LWR@loadafter{mathastext}
526 \LWR@loadafter{mathcomp}
527 \LWR@loadafter{mathdesign}
528 \LWR@loadafter{mathdots}
529 \LWR@loadafter{mathfixs}
530 \LWR@loadafter{mathpazo}
531 \LWR@loadafter{mathptmx}
532 \LWR@loadafter{mathspec}
533 \LWR@loadafter{mathtools}
534 \LWR@loadafter{mattens}
535 \LWR@loadafter{maybemath}
536 \LWR@loadafter{mcaption}
537 \LWR@loadafter{mdframed}
538 \LWR@loadafter{mdwmath}
539 \LWR@loadafter{media9}
540 \LWR@loadafter{memhfixc}
541 \LWR@loadafter{menukeys}
542 \LWR@loadafter{metalogo}
543 \LWR@loadafter{metalogox}
544 \LWR@loadafter{mhchem}
545 \LWR@loadafter{microtype}
546 \LWR@loadafter{midfloat}
547 \LWR@loadafter{midpage}
548 \LWR@loadafter{minibox}
549 \LWR@loadafter{minitoc}
550 \LWR@loadafter{minted}
551 \LWR@loadafter{mismath}
552 \LWR@loadafter{mleftright}
553 % morefloats must be allowed early for print mode
554 \LWR@notmemoirloadafter{moreverb}
555 % morewrites must be loaded before lwarf
556 \LWR@notmemoirloadafter{movie15}
557 \LWR@notmemoirloadafter{mparhack}
558 \LWR@loadafter{multibib}
559 \LWR@loadafter{multicap}
560 %\LWR@loadafter{multicol}% loaded by ltxdoc
561 \LWR@loadafter{multicolrule}
562 \LWR@loadafter{multimedia}
563 \LWR@loadafter{multiobjective}
564 \LWR@loadafter{multirow}
565 \LWR@loadafter{multitoc}
566 \LWR@loadafter{musicography}
567 \LWR@loadafter{mwe}
568 \LWR@loadafter{nameauth}
569 \LWR@loadafter{nameref}
```

```
570 \LWR@loadafter{natbib}
571 \LWR@notmemoirloadafter{nccfancyhdr}
572 \LWR@loadafter{nccfoots}
573 \LWR@loadafter{nccmath}
574 \LWR@notmemoirloadafter{needspace}
575 % newclude must be loaded before l warp
576 % newpxmath may be preloaded
577 % newtxmath may be loaded before l warp
578 % newtxsf may be loaded before l warp
579 % newunicodechar must be loaded before l warp
580 \LWR@notmemoirloadafter{nextpage}
581 \LWR@loadafter{nicefrac}
582 \LWR@loadafter{niceframe}
583 \LWR@loadafter{nicematrix}
584 \LWR@loadafter{noitcrl}
585 \LWR@loadafter{nolbreaks}
586 \LWR@loadafter{nomencl}
587 \LWR@loadafter{nonfloat}
588 \LWR@loadafter{nonumonpart}
589 \LWR@loadafter{nopageno}
590 \LWR@loadafter{notes}
591 \LWR@loadafter{notespages}
592 \LWR@loadafter{nowidow}
593 \LWR@loadafter{ntheorem}
594 \LWR@loadafter{octave}
595 \LWR@loadafter{orcidlink}
596 \LWR@loadafter{overpic}
597 \LWR@loadafter{pagegrid}
598 \LWR@notmemoirloadafter{pagenote}
599 \LWR@loadafter{pagesel}
600 \LWR@loadafter{paralist}
601 \LWR@loadafter{parallel}
602 \LWR@loadafter{parcolumns}
603 \LWR@loadafter{parnotes}
604 \LWR@notmemoirloadafter{parskip}
605 \LWR@loadafter{pbalance}
606 \LWR@loadafter{pbox}
607 \LWR@loadafter{pdfcol}
608 \LWR@loadafter{pdfcolfoot}
609 \LWR@loadafter{pdfcolmk}
610 \LWR@loadafter{pdfcolparallel}
611 \LWR@loadafter{pdfcolparcolumns}
612 \LWR@loadafter{pdfcomment}
613 \LWR@loadafter{pdfcrypt}
614 \LWR@loadafter{pdflscape}
615 \LWR@loadafter{pdfmarginpar}
616 \LWR@loadafter{pdfpages}
617 \LWR@loadafter{pdfprivacy}
618 \LWR@loadafter{pdfrender}
619 \LWR@loadafter{pdfsync}
620 \LWR@loadafter{pdftricks}
621 \LWR@loadafter{pdfx}
622 \LWR@loadafter{perpage}
623 \LWR@loadafter{pfnote}
624 \LWR@loadafter{phfqit}
```

```
625 \LWR@loadaft{physics}
626 \LWR@loadaft{physunits}
627 \LWR@loadaft{picinpar}
628 \LWR@loadaft{pifont}
629 \LWR@loadaft{pinlabel}
630 \LWR@loadaft{placeins}
631 \LWR@loadaft{plarray}
632 \LWR@loadaft{plarydshln}
633 \LWR@loadaft{plextaray}
634 \LWR@loadaft{plexarydshln}
635 \LWR@loadaft{plcolortbl}
636 \LWR@loadaft{plextdearray}
637 \LWR@loadaft{plimsoll}
638 \LWR@loadaft{prelim2e}
639 \LWR@loadaft{prettyref}
640 \LWR@loadaft{preview}
641 \LWR@loadaft{psfrag}
642 \LWR@loadaft{psfragx}
643 \LWR@loadaft{pst-eps}
644 \LWR@loadaft{pstool}
645 \LWR@loadaft{pstricks}
646 % \LWR@loadaft{pxatbegshi}% may be used by morewrites
647 \LWR@loadaft{pxeveryshi}
648 % \LWR@loadaft{pxfonts}% may be loaded before lwarp
649 \LWR@loadaft{pxftnright}
650 \LWR@loadaft{pxjahyper}
651 \LWR@loadaft{quotchap}
652 \LWR@loadaft{quoting}
653 \LWR@loadaft{ragged2e}
654 \LWR@loadaft{realscripts}
655 \LWR@loadaft{refcheck}
656 \LWR@loadaft{register}
657 \LWR@loadaft{relsize}
658 \LWR@loadaft{repeatindex}
659 \LWR@loadaft{resizegather}
660 \LWR@loadaft{returngrid}
661 \LWR@loadaft{rlepsf}
662 \LWR@loadaft{rmathbr}
663 \LWR@loadaft{rmpage}
664 \LWR@loadaft{romanbar}
665 \LWR@loadaft{romanbarpagenumber}
666 \LWR@loadaft{rotating}
667 \LWR@loadaft{rotfloat}
668 \LWR@loadaft{rviewport}
669 \LWR@loadaft{savetrees}
670 % scalefnt is loaded by babel-french
671 \LWR@loadaft{scalerel}
672 \LWR@loadaft{schemata}
673 \LWR@loadaft{scrextend}
674 \LWR@loadaft{scrhack}
675 \LWR@loadaft{scrlayer}
676 \LWR@loadaft{scrlayer-notecolumn}
677 \LWR@loadaft{scrlayer-scrpage}
678 \LWR@loadaft{scrpage2}
679 \LWR@loadaft{section}
```

```
680 \LWR@loadaftersectionbreak}
681 \LWR@loadaftersectsty}
682 \LWR@loadafterselectp}
683 \LWR@loadaftersemantic-markup}
684 \LWR@notmemoirloadaftersetspace}
685 \LWR@loadaftershadow}
686 \LWR@loadaftershapepar}
687 \LWR@notmemoirloadaftershowidx}
688 \LWR@loadaftershowkeys}
689 \LWR@loadaftershowtags}
690 \LWR@loadaftershuffle}
691 \LWR@loadaftersidecap}
692 \LWR@loadaftersidenotes}
693 \LWR@loadaftersimplebnf}
694 \LWR@loadaftersIunits}
695 \LWR@loadaftersiunitx}
696 \LWR@loadaftersiunitx-v2}
697 \LWR@loadafterskmath}
698 \LWR@loadafterslantsc}
699 \LWR@loadafterslashed}
700 \LWR@loadaftersoul}
701 \LWR@loadaftersoulpos}
702 \LWR@loadaftersoulutf8}
703 \LWR@loadaftersplitbib}
704 \LWR@loadaftersplitidx}
705 \LWR@loadaftersrcctx}
706 \LWR@loadaftersrctex}
707 \LWR@loadaftersstabular}
708 \LWR@loadaftersstackengine}
709 \LWR@loadaftersstackrel}
710 \LWR@loadaftersstatex2}
711 \LWR@loadaftersstatistics}
712 \LWR@loadaftersstatmath}
713 \LWR@loadafterssteinmetz}
714 \LWR@notltjloadaftersstfloats}
715 \LWR@loadaftersstruktex}
716 \LWR@loadaftersubcaption}
717 \LWR@loadaftersubfig}
718 \LWR@loadaftersubfigure}
719 \LWR@loadaftersubsupscripts}
720 \LWR@loadaftersupertabular}
721 \LWR@loadaftersvg}
722 \LWR@loadafterswfigure}
723 \LWR@loadaftersympytex}
724 \LWR@loadaftersyntonly}
725 \LWR@loadaftert1inc}
726 \LWR@loadaftertabfigures}
727 \LWR@loadaftertabs}
728 \LWR@loadaftertablefootnote}
729 \LWR@notmemoirloadaftertabularx}
730 \LWR@loadaftertabulary}
731 \LWR@loadaftertagpdf}
732 \LWR@loadaftertascmac}
733 \LWR@loadaftertcolorbox}
734 \LWR@loadaftertensor}
```

```
735 \LWR@loadafter{termcal}
736 \LWR@loadafter{textarea}
737 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
738 \LWR@loadafter{textfit}
739 \LWR@loadafter{textpos}
740 \LWR@loadafter{theorem}
741 \LWR@loadafter{thinsp}
742 \LWR@loadafter{thm-listof}
743 \LWR@loadafter{thm-restate}
744 \LWR@loadafter{thmbox}
745 \LWR@loadafter{thmtools}
746 \LWR@loadafter{threadcol}
747 \LWR@loadafter{threeparttable}
748 \LWR@loadafter{threeparttablex}
749 \LWR@loadafter{thumb}
750 \LWR@loadafter{thumbs}
751 \LWR@loadafter{tikz}
752 \LWR@loadafter{tikz-imagelabels}
753 \LWR@loadafter{titleps}
754 \LWR@loadafter{titlesec}
755 \LWR@loadafter{titletoc}
756 \LWR@notmemoirloadafter{titling}
757 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
758 \LWR@notmemoirloadafter{tocbibind}
759 \LWR@loadafter{tocdata}
760 \LWR@loadafter{toccenter}
761 \LWR@notmemoirloadafter{tocloft}
762 \LWR@loadafter{tocstyle}
763 \LWR@loadafter{todo}
764 \LWR@loadafter{todonotes}
765 \LWR@loadafter{topcapt}
766 \LWR@loadafter{tram}
767 \LWR@loadafter{transparent}
768 \LWR@loadafter{trimclip}
769 \LWR@loadafter{trivfloat}
770 \LWR@loadafter{truncate}
771 \LWR@loadafter{turnthepage}
772 \LWR@loadafter{twoup}
773 % \LWR@loadafter{txfonts}% may be loaded before lwarp
774 txgreeks may be loaded before lwarp

775 % \LWR@loadafter{typearea}% preloaded by koma-script classes
776 \LWR@loadafter{typicons}
777 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
778 \LWR@loadafter{umoline}
779 \LWR@loadafter{underscore}
780 % unicode-math may be loaded before lwarp
781 \LWR@loadafter{units}
782 \LWR@loadafter{unitsdef}
783 \LWR@loadafter{upgreek}
784 \LWR@loadafter{upref}
785 \LWR@loadafter{url}
786 \LWR@loadafter{ushort}
787 \LWR@loadafter{uspace}
788 \LWR@loadafter{varioref}
```

---

```

789 \LWR@notmemoirloadafter{verse}
790 \LWR@loadafter{versonotes}
791 \LWR@loadafter{vertbars}
792 \LWR@loadafter{vmargin}
793 \LWR@loadafter{vowel}
794 \LWR@loadafter{vpe}
795 \LWR@loadafter{vwcol}
796 \LWR@loadafter{wallpaper}
797 \LWR@loadafter{watermark}
798 \LWR@loadafter{widetable}
799 \LWR@loadafter{widows-and-orphans}
800 \LWR@loadafter{witharrows}
801 \LWR@loadafter{wrapfig}
802 \LWR@loadafter{xbmks}
803 \LWR@loadafter{xcolor}
804 \LWR@loadafter{xchangebar}
805 \LWR@loadafter{xellipsis}
806 % xetexko must be loaded before lwarp
807 \LWR@loadafter{xevlna}
808 \LWR@loadafter{xfakebold}
809 \LWR@loadafter{xfrac}
810 \LWR@loadafter{xltabular}
811 \LWR@loadafter{xltxtra}
812 \LWR@loadafter{xmpincl}
813 \LWR@loadafter{xpiano}
814 \LWR@loadafter{xpinyin}
815 \LWR@loadafter{xr}
816 \LWR@loadafter{xr-hyper}
817 \LWR@loadafter{xtab}
818 % xunicode must be loaded before lwarp
819 \LWR@loadafter{xurl}
820 \LWR@loadafter{xy}
821 \LWR@loadafter{zwpagelayout}

```

## 21 MD5 hashing

The MD5 hash is used for `lateximage` filenames for SVG math.

```

822 \newcommand{\LWR@mdfive}[1]{%
823 \PackageError{lwarp}%
824 {No MD5 macro was found}%
825 {%
826 Lwarp must find the macros \protect\pdfmdfivesum\space%
827 or \protect\mdfivesum.%%
828 }%
829 }

```

The default for PDF L<sup>A</sup>T<sub>E</sub>X, DVI L<sup>A</sup>T<sub>E</sub>X, upL<sup>A</sup>T<sub>E</sub>X, etc:

```
830 \let\LWR@mdfive\pdfmdfivesum
```

For Lua<sup>L</sup>ATEX:

```
831 \ifLuaTeX
832 \RequirePackage{pdftexcmds}
833 \let\LWR@mdfive\pdf@mdfivesum
834 \fi
```

For X<sub>E</sub><sup>L</sup>ATEX:

```
835 \ifXeTeX
836 \@ifundefined{pdffivesum}{}%
837 {\let\LWR@mdfive\pdfmdfivesum}
838 \@ifundefined{mdfivesum}{}%
839 {\let\LWR@mdfive\mdfivesum}
840 \fi
```

## 22 PDF L<sup>A</sup>T<sub>E</sub>X T1 and UTF-8 encoding

When using PDF L<sup>A</sup>TEX, l warp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, l warp will try to use it instead, and hope for the best.

X<sub>E</sub><sup>L</sup>ATEX and Lua<sup>L</sup>ATEX are both UTF-8 by nature.

\LWR@pdfencoding Sets T1, and also utf8 if not already set.

```
841 \newcommand*{\LWR@pdfencoding}{%
842 \RequirePackage[T1]{fontenc}
843
844 \@ifpackageloaded{inputenc}{}{%
845 \@ifpackageloaded{inputenx}{}{%
846 \RequirePackage[utf8]{inputenc}
847 }%
848 }%
849 }%
850 \ifPDFTeX% pdflatex or dvi latex
851 \LWR@pdfencoding
852 \fi
853
854 \ifpTeX
855 \LWR@pdfencoding
856 \fi
```

## 23 Unicode input characters

If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be \texttt{textrm}.

The first arguments of \newunicodechar below are text ligatures in the source code, even though they are not printed in the following listing.

```

857 \ifpdfTeX
858 \else
859 \RequirePackage{newunicodechar}
860
861 \newunicodechar{x}{\texttimes}
862
863 \ifPDFTeX% pdflatex or dvi latex
864 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
865 \newunicodechar{fi}{fi}
866 \newunicodechar{fl}{fl}
867 \newunicodechar{ffi}{ffi}
868 \newunicodechar{ffl}{ffl}
869 \newunicodechar{--}{--}
870 \newunicodechar{--}{--}
871 \fi
872
873 \fi

```

## 24 Avoid a bitmapped font

If DVI or PDF LATEX, and if the default Computer Modern is the selected font family, ensure that cm-super or lmodern is used to provide a vector font.

```

874 \ifxetexorluatex
875 \else
876 \ifdefstring{\f@family}{cmr}{
877 \IfFileExists{type1ec.sty}{% found in cm-super
878 {}
879 {% cm-super not installed
880 \IfFileExists{lmodern.sty}{
881 \PackageInfo{l warp}{cm-super not installed, loading lmodern}
882 \RequirePackage{lmodern}
883 }
884 \PackageError{l warp}{%
885 L warp requires a vector font.\MessageBreak
886 Install and load cm-super, lmodern, or another\MessageBreak
887 Type-1 vector font before loading l warp.\MessageBreak
888 Enter 'H' for possible solutions%
889 }
890 }
891 {%
892 Install cm-super or lmodern.\MessageBreak
893 If lmodern, load it before l warp:\MessageBreak
894 \space\space\protect\usepackage{lmodern}\MessageBreak

```

---

```

895 \space\space\protect\usepackage{l warp}%
896 }
897 }
898 }% cm-super not installed
899 }{}% f@family
900 \fi

```

## 25 Upright quotes

In PDF T<sub>E</sub>X, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

901 \ifPDFTeX
902 \RequirePackage{upquote}
903 \fi
904
905 \ifpTeX
906 \RequirePackage{upquote}
907 \fi

```

## 26 Avoid bad font combinations

For X<sub>E</sub>T<sub>E</sub>X and L<sub>A</sub>T<sub>E</sub>X, certain font combinations cause problems with `l warp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```

908 \ifxetexorluatex
909 \AtBeginDocument{
910 \@ifpackageloaded{kpfonts}{
911 \PackageError{l warp}{%
912 When using XeLaTeX or LuaLaTeX, \MessageBreak
913 use kpfonts-otf instead of kpfonts%
914 }%
915 }%
916 {%
917 Replace: \protect\usepackage{kpfonts}\MessageBreak
918 with: \protect\usepackage{kpfonts-otf}%
919 }%
920 }{}%
921 }%
922 \fi

```

## 27 Miscellaneous tools

### 27.1 Variables

```

923 \newlength{\LWR@templengthone}

```

---

```
924 \newlength{\LWR@templengthtwo}
925 \newlength{\LWR@templengththree}
926 \newcounter{LWR@tempcountone}
```

## 27.2 Lengths and units

\LWR@providelength {⟨lengthname⟩} Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```
927 \newcommand*\LWR@providelength[1]{%
928 \ifdeflength{#1}{}{\newlength{#1}}%
929 }
```

\LWR@convertto {⟨dest unit⟩} {⟨length⟩}

Prints a length in the given units, without printing the unit itself.

```
930 \newcommand*{\LWR@convertto}[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
```

\LWR@printpercentlength {⟨smaller⟩} {⟨larger⟩}

Prints a percent ratio of the two lengths.

```
931 \newcommand*{\LWR@printpercentlength}[2]{%
932 \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
933 \arabic{LWR@tempcountone}%
934 }
```

## 27.3 Counters

\defaddtocounter {⟨name⟩} {⟨value⟩}

Locally add to a counter.

```
935 \providecommand*{\defaddtocounter}[2]{%
936 \defcounter{#1}{\value{#1}+#2}%
937 }
```

## 27.4 Patching

\LWR@patcherror {⟨packagename⟩} {⟨macroname⟩}

Prints an error if could not patch a macro.

```
938 \newcommand*{\LWR@patcherror}[2]{%
939 \PackageError{lwarp}{%
```

---

```

940 {%
941 Unable to patch package #1,\MessageBreak
942 macro \LWRbackslash #2.\MessageBreak
943 Lwarp or #1 may need to be updated%
944 }%
945 {Please contact the maintainer of the Lwarp package.}%
946 }

```

## 27.5 Chinese text isolation

\LWR@isolate  $\{\langle text \rangle\}$  Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```

947 \newcommand{\LWR@isolate}[1]{#1}%
948
949 \@ifpackageloaded{ctexpatch}{%
950 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
951 }{}%
952
953 \@ifpackageloaded{xeCJK}{%
954 \renewcommand{\LWR@isolate}[1]{\null#1\null}%
955 }{}%

```

\LWR@disablepinyin Disable `xpinyin` during file, sidetoc, and footnote generation. Set by `xpinyin`.

```
956 \newcommand*\LWR@disablepinyin{()}
```

## 27.6 Inserting vertical space

\LWR@forceemptyline Extra vertical space in the HTML output. Use after \LWR@stopars.

```

957 \newcommand*\LWR@forceemptyline{%
958 \LWR@origrule{0pt}{1\baselineskip}%
959 \LWR@orignewline%
960 }

```

## 27.7 Argument selection

\LWR@firstoffive  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

\LWR@secondoffive  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

\LWR@thirdoffive  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

\LWR@fourthoffive  $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

---

\LWR@fifthoffive {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩} {⟨fifth⟩}

Expands to the nth of the five arguments. Used for extra cross referencing.

```
961 \long\def\LWR@firstoffive#1#2#3#4#5{#1}
962 \long\def\LWR@secondoffive#1#2#3#4#5{#2}
963 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}
964 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}
965 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

## 27.8 Inside boxes

Greater than zero if currently inside a T<sub>E</sub>X box, thus should not use \LWR@orignewpage. See section 13.2.

```
966 \newcounter{LWR@texboxdepth}
967 \setcounter{LWR@texboxdepth}{0}
```

\LWR@maybe@orignewpage Only do \LWR@orignewpage if not inside a T<sub>E</sub>X box.

```
968 \newcommand*{\LWR@maybe@orignewpage}{%
969 \LWR@traceinfo{\LWR@maybe@orignewpage}%
970 \ifnumgreater{\value{LWR@texboxdepth}}{0}{%
971 {}%
972 {\LWR@orignewpage}%
973 \LWR@traceinfo{\LWR@maybe@orignewpage done}%
974 }
```

## 27.9 Global boxes

\LWR@gsavebox {⟨macroname⟩} {⟨contents⟩}

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
975 \DeclareRobustCommand{\LWR@gsavebox}[1]{%
976 \@ifnextchar(%)
977 {\LWR@gsavepicbox#1}{\@ifnextchar[{\LWR@gsavebox#1}{\LWR@gbox#1}}}}%
978 \long\def\LWR@gbox#1#2{\global\setbox#1\hbox{%
979 \color{setgroup#2}\color{endgroup}}}
980 \def\LWR@gsavebox#1[#2]{%
981 \@ifnextchar[{\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}}
982 \long\def\LWR@igsavebox#1[#2][#3]{%
983 \LWR@gbox#1{\@imakebox[#2][#3]{#4}}}
984 \def\LWR@gsavepicbox#1(#2,#3){%
985 \@ifnextchar[%]
986 {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[[]]}}
987 \long\def\LWR@igsavepicbox#1(#2,#3)[#4]{%
988 \LWR@gbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}
```

```

Env LWR@glrbox {⟨macroname⟩}

989 \def\LWR@glrbox#1{%
990 \edef\reserved@a{%
991 \endgroup
992 \global\setbox#1\hbox{%
993 \begingroup\aftergroup}%
994 \def\noexpand\@currenvir{\@currenvir}%
995 \def\noexpand\@currenvline{\on@line}%
996 \reserved@a
997 \endpfalse
998 \color@setgroup
999 \ignorespaces}
1000 \let\LWR@endglrbox\LWR@endlrbox

```

## 27.10 Converting a macro name to a cs name

```
\macro{csname} {⟨macro name with backslash⟩}
```

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

1001 \newcommand*{\macro{csname}}[1]{%
1002 \ifcat\relax\noexpand#1%
1003 \expandafter\expandafter\expandafter\@gobble\expandafter\string
1004 \fi
1005 #1%
1006 }

```

## 27.11 Title case

```
\LWR{texttitlecase}
```

```

1007 \ExplSyntaxOn
1008 \newcommand*{\LWR{texttitlecase}}[1]{%
1009 \text_titlecase:n{#1}%
1010 }
1011 \ExplSyntaxOff

```

## 27.12 LetLtxMacros

```
\LWR@LetLtxMacros {⟨newcsname⟩} {⟨oldcsname⟩}
```

\LetLtxMacro with cs names.

```

1012 \newcommand*{\LWR@LetLtxMacros}[2]{%
1013 \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1014 \csname#2\endcsname%
1015 }

```

### 27.13 Absorbing a star

```
\LWR@absorbstar {⟨csname⟩}
```

Modifies a macro to absorb a star. Used for cleveref, since hyperref is emulated, so the starred macros are not created by cleveref.

```
1016 \newcommand*{\LWR@absorbstar}[1]{%
1017 \LWR@LetLtxMacro{\LWR@origns@#1}{#1}%
1018 \csdef{#1}{\@ifstar{\csuse{\LWR@origns@#1}}{\csuse{\LWR@origns@#1}}}
1019 \expandafter\robustify\csname #1\endcsname
1020 }
```

## 28 Operating-System portability

|                 |                                                                                                                                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prog Unix       | lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well. |
| Prog Mac OS     |                                                                                                                                                                                                        |
| Prog Linux      |                                                                                                                                                                                                        |
| Prog MS-Windows | If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.                                                                                                                               |
| Prog Windows    |                                                                                                                                                                                                        |
| Opt OSWindows   | When detected or specified, the operating-system path separator used by lwarp is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.           |

### 28.1 Literal characters

Literal characters to be used in PrintLatexCmd and HTMLLatexCmd. These are defined without @ to easily allow their inclusion in the user’s document.

The literal % character:

```
1021 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
1022 \catcode`\$=12
1023 \def\LWRdollar{\$}
1024 \catcode`\$=3
```

The literal & character:

```
1025 \catcode`\&=12
1026 \def\LWRamp{\&}
1027 \catcode`\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

---

```

1028 \catcode`\&=0
1029 &catcode`\&=12
1030 &def&LWRbackslash{\}
1031 &catcode`\&=0
1032 \catcode`\&=4

```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```

1033 \catcode`\&=1
1034 \catcode`\{=12
1035 \def\LWRleftbrace&{{
1036 \catcode`\{=1
1037 \catcode`\&=4

```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```

1038 \catcode`\&=2
1039 \catcode`\}=12
1040 \def\LWRrightbrace{}&
amp;
1041 \catcode`\}=2
1042 \catcode`\&=4

```

The literal # character:

```

1043 \catcode`\#=12
1044 \def\LWRhash{#}
1045 \catcode`\#=6

```

\LWRopquote The operating system's quote mark, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
1046 \def\LWRopquote{'}
```

\LWRopseq The operating system's sequential execution command, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
1047 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}
```

## 28.2 Common portability code

Bool usingOSWindows Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```

1048 \newbool{usingOSWindows}
1049 \boolfalse{usingOSWindows}

```

### 28.3 UNIX, LINUX, and MAC OS

\OSPathSymbol Symbol used to separate directories in a path.

```
1050 \newcommand{\OSPathSymbol}{/}
```

### 28.4 MS-WINDOWS

For MS-WINDOWS:

\LWR@setOSWindows Set defaults for the MS-WINDOWS operating system. lwarp attempts to auto-detect the operating system, and the OSWindows option may also be used to force MS-WINDOWS compatibility.

```
1051 \newcommand{\LWR@setOSWindows}
1052 {
1053 \booltrue{usingOSWindows}
1054 \renewcommand{\OSPathSymbol}{\@backslashchar}
1055 \def\LWRopquote{`}
1056 \def\LWRopseq{\space\LWRamp\space\space}
1057 }
```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```
1058 \ifwindows
1059 \LWR@setOSWindows
1060 \fi
```

## 29 Package options

Pkg kvoptions Allows key/value package options.

```
1061 \RequirePackage{kvoptions}
1062 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

\lwarpsetup A user interface to set the keys:

```
1063 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint

Bool warpingHTML

Bool mathjax

Bool LWR@origmathjax

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsxml/mathjax.

LWR@origmathjax remembers the original setting to be restored by \displaymathnormal.

```

1064 \newbool{warpingprint}
1065 \newbool{warpingHTML}
1066 \newbool{mathjax}
1067 \newbool{LWR@origmathjax}
```

**defaults** The default is print output, and SVG math if the user chose HTML output.

```

1068 \booltrue{warpingprint}%
1069 \boolfalse{warpingHTML}%
1070 \boolfalse{mathjax}%
```

**Opt warpprint** If the warpprint option is given, boolean warpingprint is true and boolean warpingHTML is false, and may be used for \ifbool tests.

```

1071 \DeclareVoidOption{warpprint}{%
1072 \PackageInfo{l warp}{Using option 'warpprint'}%
1073 \booltrue{warpingprint}%
1074 \boolfalse{warpingHTML}%
1075 }
```

**Opt warpHTML** Anything in the warpHTML environment will be generated for HTML output only.

**Opt warpHTML** If the warpHTML option is given, boolean warpingHTML is true and boolean warpingprint is false, and may be used for \ifbool tests.

```

1076 \DeclareVoidOption{warpHTML}{%
1077 \PackageInfo{l warp}{Using option 'warpHTML'}%
1078 \booltrue{warpingHTML}%
1079 \boolfalse{warpingprint}%
1080 }
```

**Opt mathsvg** Option mathsvg selects SVG math display: If the mathsvg option is given, boolean mathjax is false, and may be used for \ifbool tests.

```

1081 \DeclareVoidOption{mathsvg}{%
1082 \PackageInfo{l warp}{Using option 'mathsvg'}%
1083 \boolfalse{mathjax}%
1084 \boolfalse{LWR@origmathjax}%
1085 }
```

**Opt mathjax** Option mathjax selects MATHJAX math display: If the mathjax option is given, boolean mathjax is true, may be used for \ifbool tests.

```

1086 \DeclareVoidOption{mathjax}{%
1087 \PackageInfo{l warp}{Using option 'mathjax'}%
1088 \booltrue{mathjax}%
1089 \booltrue{LWR@origmathjax}%
1090 }
```

**Opt BaseJobname** Option BaseJobname sets the \BaseJobname for this document.

Default: \jobname

This is the `\jobname` of the printed version, even if currently compiling the `HTML` version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
1091 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `ImagesDirectory` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.  
Default: `\jobname-images`

```
1092 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

Opt `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.  
Default: `image-`

```
1093 \DeclareStringOption[image-]{ImagesName}
```

Opt `makeindexStyle` Selects a custom `.ist` file. A customized file should be based on `lwarf.ist`. See section 8.6.20.  
Default: `lwarf.ist`

```
1094 \DeclareStringOption[lwarf.ist]{makeindexStyle}
```

Opt `xindyStyle` Selects a custom `.xdy` file. A customized file should be based on `lwarf.xdy`. See section 8.6.21.  
Default: `lwarf.xdy`

```
1095 \DeclareStringOption[lwarf.xdy]{xindyStyle}
```

Opt `xindyLanguage` Sets the `xindy` language to be assigned in `lwarpmk`'s configuration files. This is then used by `lwarpmk` while processing the index and glossary.  
Default: `english`

```
1096 \DeclareStringOption[english]{xindyLanguage}
```

Opt `xindyCodepage` Sets the `xindy` codepage to be assigned in `lwarpmk`'s configuration files. This is then used by `lwarpmk` while processing the index.  
Default: `utf8`

```
1097 \DeclareStringOption[utf8]{xindyCodepage}
```

Opt `xindexConfig` Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`.  
Default: `<empty>` See section 8.6.22.

```
1098 \DeclareStringOption[]{xindexConfig}
```

Opt `pdftotextEnc` The option `pdftotextEnc` sets the encoding used by `pdftotext`. This is passed to `pdftotext` using its `-enc` option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.  
Default: `UTF-8`

```
1099 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

Opt `lwarpmk` Tells `lwarf` to generate a local copy of `lwarpmk` called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like `lwarpmk`.

If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:

```
1100 \newbool{LWR@creatinglwarpmk}
1101 \boolefalse{LWR@creatinglwarpmk}
1102
1103 \DeclareVoidOption{lwarpmk}{
1104 \PackageInfo{lwarp}{Using option 'lwarpmk'}
1105 \booletrue{LWR@creatinglwarpmk}
1106 }
```

**Opt OSWindows** Tells `lwarp` to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
1107 \DeclareVoidOption{OSWindows}{
1108 \PackageInfo{lwarp}{Using option 'OSWindows'}
1109 \LWR@setOSWindows
1110 }
```

**Opt HomeHTMLFilename** The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.

```
1111 \DeclareStringOption[]{}{HomeHTMLFilename}
```

**Opt HTMLFilename** The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.

```
1112 \DeclareStringOption[]{}{HTMLFilename}
```

**Opt PrintLatexCmd** The shell commands to use to compile the print document.  
**Default:** `<automatic>`

```
1113 \DeclareStringOption[]{}{PrintLatexCmd}
```

**Opt HTMMLatexCmd** The shell commands to use to compile the HTML document.  
**Default:** `<automatic>`

```
1114 \DeclareStringOption[]{}{HTMMLatexCmd}
```

**Opt PrintIndexCmd** The shell commands to use to compile the print indexes.  
**Default:** `<empty>`

```
1115 \DeclareStringOption[]{}{PrintIndexCmd}
```

**Opt HTMLIndexCmd** The shell commands to use to compile the HTML indexes.  
**Default:** `<empty>`

```
1116 \DeclareStringOption[]{}{HTMLIndexCmd}
```

**Opt LatexmkIndexCmd** The shell commands to be used by `latexmk` to compile the print indexes. Unlike  
**Default:** `<empty>`

PrintIndexCmd and HTMLIndexCmd, LatexmkIndexCmd does not include the filename, which will be provided by *latexmk*.

```
1117 \DeclareStringOption[]{LatexmkIndexCmd}
```

Opt makeindex Tells *l warp* to use *makeindex* for index generation. When *l warpmk.conf* and *\*.l warpmkconf* are generated, PrintIndexCmd and HTMLIndexCmd will be set for *makeindex* with a single index file.

```
1118 \DeclareBoolOption[false]{makeindex}
```

Opt xindy Tells *l warp* to use *xindy* for index generation. When *l warpmk.conf* and *\*.l warpmkconf* are generated, PrintIndexCmd and HTMLIndexCmd will be set for *xindy* with a single index file.

```
1119 \DeclareBoolOption[false]{xindy}
```

Opt xindex Tells *l warp* to use *xindex* for index generation. When *l warpmk.conf* and *\*.l warpmkconf* are generated, PrintIndexCmd and HTMLIndexCmd will be set for *xindex* with a single index file.

```
1120 \DeclareBoolOption[false]{xindex}
```

Opt IndexRef Tells *l warp* how to display the index entries in HTMLoutput. See section 7.5.  
Default: *cref*

```
1121 \DeclareStringOption[cref]{IndexRef}
```

Opt GlossaryCmd The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.  
Default: *makerglossaries*

```
1122 \DeclareStringOption[makerglossaries]{GlossaryCmd}
```

Opt latexmk Option *latexmk* tells *l warpmk* to use *latexmk* when compiling documents.

```
1123 \DeclareBoolOption[false]{latexmk}
```

Opt dvips Option *dvips* tells *l warpmk* to use *dvips* when compiling DVI *latex* documents.

```
1124 \DeclareBoolOption[false]{dvips}
```

Opt dvipdfm Option *dvipdfm* tells *l warpmk* to use *dvipdfm* when compiling DVI *latex* documents.

```
1125 \DeclareBoolOption[false]{dvipdfm}
```

Opt dvipdfmx Option *dvipdfmx* tells *l warpmk* to use *dvipdfmx* when compiling DVI *latex* documents.

```
1126 \DeclareBoolOption[false]{dvipdfmx}
```

Execute options Execute the package options, with the defaults which have been set just above:

```
1127 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

Assign the \BaseJobname if the user hasn't provided one:

```
1128 \providecommand*\{\BaseJobname}{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1129 \ifcsempty{\LWR@HomeHTMLFilename}{
1130 \newcommand*\{\HomeHTMLFilename}{\BaseJobname}
1131 }{
1132 \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1133 }
1134
1135 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

\LWR@sanitized The sanitized version of what was given to \LWR@sanitize. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1136 \newcommand*\{\LWR@sanitized}{}{}
```

\LWR@sanitize {<text>}

Sanitizes the text and returns the result in \LWR@sanitized.

```
1137 \newcommand*\{\LWR@sanitize}[1]{%
1138 \edef\LWR@sanitized{\#1}%
1139 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1140 }
```

Sanitize some string options to neutralize underscores.

```
1141 \LWR@sanitize{\LWR@BaseJobname}
1142 \edef\LWR@BaseJobname{\LWR@sanitized}
1143
1144 \LWR@sanitize{\LWR@ImagesDirectory}
1145 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1146
1147 \LWR@sanitize{\LWR@ImagesName}
1148 \edef\LWR@ImagesName{\LWR@sanitized}
```

\LWR@PrintIndexCmd and \LWR@HTMLIndexCmd are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the **lwarp xindy** option was selected, then likewise for *xindex* if the **xindex** option was selected.

```
1149 \ifdefempty{\LWR@PrintIndexCmd}{
1150 \renewcommand{\LWR@PrintIndexCmd}{%
1151 makeindex -s \LWR@makeindexStyle \space \jobname.idx%
```

```
1152 }
1153 \ifbool{\LWR@xindy}{%
1154 \renewcommand{\LWR@PrintIndexCmd}{%
1155 xindy
1156 -M \LWR@xindyStyle \space
1157 -L \LWR@xindyLanguage \space
1158 -C \LWR@xindyCodepage \space
1159 \jobname.idx%
1160 }
1161 }{%
1162 \ifbool{\LWR@xindex}{%
1163 \ifdefvoid{\LWR@xindexConfig}{%
1164 \renewcommand{\LWR@PrintIndexCmd}{%
1165 xindex
1166 \jobname.idx%
1167 }
1168 }{%
1169 \renewcommand{\LWR@PrintIndexCmd}{%
1170 xindex
1171 -c \LWR@xindexConfig \space
1172 \jobname.idx%
1173 }
1174 }
1175 }{%
1176 }{%
1177
1178 \ifdefempty{\LWR@HTMLIndexCmd}{%
1179 \renewcommand{\LWR@HTMLIndexCmd}{%
1180 makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1181 }
1182 \ifbool{\LWR@xindy}{%
1183 \renewcommand{\LWR@HTMLIndexCmd}{%
1184 xindy
1185 -M \LWR@xindyStyle \space
1186 -L \LWR@xindyLanguage \space
1187 -C \LWR@xindyCodepage \space
1188 \jobname_html.idx%
1189 }
1190 }{%
1191 \ifbool{\LWR@xindex}{%
1192 \ifdefvoid{\LWR@xindexConfig}{%
1193 \renewcommand{\LWR@HTMLIndexCmd}{%
1194 xindex
1195 \jobname_html.idx%
1196 }
1197 }{%
1198 \renewcommand{\LWR@HTMLIndexCmd}{%
1199 xindex
1200 -c \LWR@xindexConfig \space
1201 \jobname_html.idx%
1202 }
1203 }
1204 }{%
1205 }{%
1206 }
```

```

1207 \ifdefempty{\LWR@LatexmkIndexCmd}{
1208 \renewcommand{\LWR@LatexmkIndexCmd}{%
1209 makeindex -s \LWR@makeindexStyle%
1210 }
1211 \ifbool{LWR@xindy}{
1212 \renewcommand{\LWR@LatexmkIndexCmd}{%
1213 xindy
1214 -M \LWR@xindyStyle \space
1215 -L \LWR@xindyLanguage \space
1216 -C \LWR@xindyCodepage%
1217 }
1218 }{}
1219 \ifbool{LWR@xindex}{
1220 \ifdefvoid{\LWR@xindexConfig}{%
1221 \renewcommand{\LWR@LatexmkIndexCmd}{%
1222 xindex
1223 }
1224 }{
1225 \renewcommand{\LWR@LatexmkIndexCmd}{%
1226 xindex
1227 -c \LWR@xindexConfig
1228 }
1229 }{}
1230 }{}
1231 }{}

```

## 29.2 Conditional compilation

\warpprintonly {*contents*}

Only process the contents if producing printed output.

```
1232 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

\warpHTMLonly {*contents*}

Only process the contents if producing HTML output.

```
1233 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

Pkg comment Provides conditional code blocks.

Attempts to use **versions** or **verbatim** fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1234 \RequirePackage{comment}
```

\LWR@includecomment {*env name*} {*partial filename*}

\LWR@excludecomment {*env name*} {*partial filename*}

Use many **comment** cut files to avoid collision in case the user uses the **comment** package. Each filename is “comment\_{#2}.cut”. Based on the **comment** package.

```

1235 \def\LWR@includecomment
1236 #1#2{\message{Lwarp: Including comment '#1'}%
1237 \csarg\def{After#1Comment}{%
1238 \CloseAndInputCutFile%
1239 \csundef{LWR@#1commentused}%
1240 }
1241 \csarg\def{#1}{%
1242 \endgroup
1243 \ifcsdef{LWR@#1commentused}{%
1244 \PackageError{lwarp}%
1245 {Nested #1 environment}%
1246 {%
1247 Environment #1 cannot be nested.\MessageBreak
1248 This can happen when a package is loaded
1249 from inside a\MessageBreak
1250 #1 environment.%
1251 }%
1252 }{\relax}
1253 \csdef{LWR@#1commentused}{}%
1254 \message{Including '#1' comment.}%
1255 \def\CommentCutFile{comment_{#2}.cut}%
1256 \SetUpCutFile
1257 \ProcessComment{#1}%
1258 }%
1259 \CommentEndDef{#1}%
1260 }
1261
1262 \def\LWR@excludecomment
1263 #1#2{\message{Lwarp: Excluding comment '#1'}%
1264 \csarg\def{#1}{%
1265 \endgroup
1266 \message{Excluding '#1' comment.}%
1267 \begingroup
1268 \def\CommentCutFile{comment_{#2}.cut}%
1269 \def\ProcessCutFile{}%
1270 \def\ThisComment####1{}%
1271 \ProcessComment{#1}%
1272 }%
1273 \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}%
1274 \CommentEndDef{#1}%

```

Env warpall Anything in the warpall environment will be generated for print or HTML outputs.

```
1275 \LWR@includecomment{warpall}{all}
```

Env warpHTML For HTML output:

```

1276 \ifbool{warpingHTML}%
1277 {\LWR@includecomment{warpHTML}{html}}%
1278 {\LWR@excludecomment{warpHTML}{html}}%
```

Env `warpprint` Anything in the `warpprint` environment will be generated for print output only.

```
1279 \ifbool{warpingprint}
1280 {\LWR@includecomment{warpprint}{print}}
1281 {\LWR@excludecomment{warpprint}{print}}
```

Env `warpMathJax` Only if `MATHJAX` is being used along with `HTML`.

```
1282 \begin{warpprint}
1283 \LWR@excludecomment{warpMathJax}{mathjax}
1284 \end{warpprint}
1285
1286 \begin{warpHTML}
1287 \ifbool{mathjax}
1288 {\LWR@includecomment{warpMathJax}{mathjax}}
1289 {\LWR@excludecomment{warpMathJax}{mathjax}}
1290 \end{warpHTML}
```

Env `warpsvg` Only if `SVG` math is being used along with `HTML`, or in print mode.

```
1291 \begin{warpprint}
1292 \LWR@includecomment{warpsvg}{mathsvg}
1293 \end{warpprint}
1294
1295 \begin{warpHTML}
1296 \ifbool{mathjax}
1297 {\LWR@excludecomment{warpsvg}{mathsvg}}
1298 {\LWR@includecomment{warpsvg}{mathsvg}}
1299 \end{warpHTML}
```

Env `LWRcreatelwarpmk` Optionally generate a local copy of `lwarpmk`. Default to no.

```
1300 \ifbool{LWR@creatinglwarpmk}
1301 {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1302 {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}
```

## 30 Required packages

These packages are automatically loaded by `lwarp` when generating `HTML` output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1303 `\begin{warpHTML}`

Pkg `fontspec` Load `fontspec` if necessary:

```
1304 \ifxetexorluatex
1305 @ifpackageloading{fontspec}{}{
1306 \usepackage[no-math]{fontspec}
1307 }
```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```
1308 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1309 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1310 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1311 \else
```

**pdflatex only:** Only pre-loaded if *pdflatex* is being used.

Pkg microtype

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```
1312 \RequirePackage {microtype}
1313
1314 \microtypesetup{
1315 protrusion=false,
1316 expansion=false,
1317 tracking=false,
1318 kerning=false,
1319 spacing=false}
1320 % \begin{macrocode}
1321 %
1322 % Disable ligatures for typewriter fonts.
1323 % The comma was causing issues with \MathJax\ and \cs{,} followed by a comma.
1324 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1325 % are now allowed.
1326 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1327 % ^^A \DisableLigatures[{},f,q,t,T,Q]{encoding = *,family = *}% previous
1328 % \begin{macrocode}
1329 \DisableLigatures{encoding = *,family = tt*}

1330 \fi

1331 \end{warpHTML}
```

Pkg geometry Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

**for HTML output:** 1332 \begin{warpHTML}

If **geometry** has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by **l warp \AtBeginDocument** with a very large page size to reduce HTML tag overflow off the page.

```
1333 \@ifpackageloaded{geometry}
1334 {}{
1335 \RequirePackage[
1336 reset,
1337 paperwidth=\paperwidth,
1338 paperheight=\paperheight,
1339 textwidth=\textwidth,
1340 textheight=\textheight,
1341 left=\oddsidemargin,
1342 top=\topmargin,
1343 marginparsep=\marginparsep,
1344 marginparwidth=\marginparwidth,
1345]{geometry}
1346 }
```

Remember the original definitions for later reuse. If the **geometry** package is loaded by the user, **l warp-geometry** will nullify the user-level originals.

```
1347 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1348 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}
1349 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1350 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1351 \LetLtxMacro{\LWR@origloadgeometry}{\loadgeometry}
```

**Bool LWR@allowanothergeometry** **geometry** may be loaded by the user before **l warp**, after **l warp**, or not at all. If before **l warp**, it will have already been loaded by now and its page layout has already been saved. If **geometry** is loaded after **l warp**, its layout will be set at that time and the user macros nullified. **\AtEndPreamble** this layout will be saved. If the user never loads **geometry**, **l warp-geometry** will be loaded **\AtBeginDocument**, but it should not change the page layout set here. This is controlled by the boolean **LWR@allowanothergeometry**. Geometry may be adjusted throughout the preamble until **\AtEndPreamble**, when this boolean is set false.

```
1352 \newbool{\LWR@allowanothergeometry}
1353 \booltrue{\LWR@allowanothergeometry}
```

Use **\AtEndPreamble** to avoid class and option conflict by changing settings after other packages load, instead of using **geometry** package options:

```
1354 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after **l warp** was loaded, are now saved for possible temporary reuse, such as by **lyluatex**.

See the **l warp-geometry** section for what happens if **geometry** is loaded after **l warp**.

```
1355 \LWR@origsavegeometry{\LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```
1356 \newlength{\LWR@userspaperwidth}
1357 \setlength{\LWR@userspaperwidth}{\paperwidth}
1358
1359 \newlength{\LWR@userspaperheight}
1360 \setlength{\LWR@userspaperheight}{\paperheight}
1361
1362 \newlength{\LWR@usersmarginparwidth}
1363 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1364
1365 \newlength{\LWR@userstextwidth}
1366 \setlength{\LWR@userstextwidth}{\textwidth}
1367
1368 \newlength{\LWR@userstextheight}
1369 \setlength{\LWR@userstextheight}{\textheight}
```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```
1370 \LWR@origgeometry{
1371 reset,
1372 paperheight=190in,
1373 paperwidth=20in,
1374 left=2in,
1375 right=6in,
1376 top=1in,
1377 bottom=1in,
1378 heightrounded,%
```

The `lwarp` page geometry is saved for future restore:

```
1380 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1381 \boolefalse{\LWR@allowanothergometry}%
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```
1382 \setlength{\textheight}{0.8\paperheight}
1383 \setlength{\textwidth}{0.7\paperwidth}
1384
1385 \@twosidefalse
1386 \@mparswitchfalse
1387 }% \AtEndPreamble
1388
1389 \end{warpHTML}
```

**for HTML & PRINT:** 1390 `\begin{warpall}`

LATEX3 command argument parsing

1391 \RequirePackage{xparse}

Pkg calc

1392 \RequirePackage{calc}

1393 \end{warpall}

**for HTML output:** 1394 \begin{warpHTML}

Pkg expl3

LATEX3 programming

1395 \RequirePackage{expl3}

Pkg gettitlestring

Used to emulate \nameref.

1396 \RequirePackage{gettitlestring}

Pkg everyhook

**everyhook** is used to patch paragraph handling.

1397 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}

1398

1399 \RequirePackage{everyhook}

1400 \end{warpHTML}

**for HTML & PRINT:** 1401 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of LATEX (as of Fall 2019) now include the functionality of the **filecontents** package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older LATEX kernel is used, the original **filecontents** package is used, but it is patched to throw away the new optional argument.

1402 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args

1403

1404 \RequirePackage{filecontents}

1405

1406 \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents

1407

1408 \@ifpackagelater{filecontents}{2011/10/08}

1409 {

For a newer version of the `filecontents` package, simply discard the optional argument.

```
1410 \renewcommand*{\filecontents}[1][]{\LWR@orig@filecontents}
1411 }
1412 {% patch older package for morewrites
```

For an older version of `filecontents`, discard the optional argument, and also patch to work with `morewrites`, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```
1413 \newwrite\fcwrite
1414 \renewcommand*{\filecontents}[1][]{%
1415 \def\chardef##1\write{\let\reserved@c\fcwrite}%
1416 \LWR@orig@filecontents%
1417 }
1418 }
1419
1420 }% older kernel
1421 {% newer kernel
```

For a newer kernel with a `filecontents` environment which accepts the optional `overwrite` argument, use the environment as-is.

```
1422 }% newer kernel, filecontents env accepts optional args, do not load package
1423 \end{warpall}
```

**for HTML output:** 1424 `\begin{warpHTML}`

Pkg `xifthen`

```
1425 \RequirePackage{xifthen}
```

Pkg `verbatim`

```
1426 \RequirePackage{verbatim}
```

Pkg `refcount`

Provides `\setcounterref`, `\setcounterpageref`, etc.

```
1427 \RequirePackage{refcount}
```

Pkg `newfloat`

```
1428 \RequirePackage{newfloat}
```

```
1429 \end{warpHTML}
```

**for HTML & PRINT:** 1430 `\begin{warpall}`

Pkg xstring There was a short-term bug in xstring regarding \IfInteger which affected lwarp's index generation. The updated version is requested here.

 **index** 1431 \RequirePackage{xstring}[2019/02/01]

Pkg environ Used to encapsulate math environments for re-use in HTML <alt> text.

1432 \RequirePackage{environ}

1433 \end{warpall}

**for HTML output:** 1434 \begin{warpHTML}

Pkg printlen Used to convert lengths for image width/height options.

1435 \RequirePackage{printlen}

\LWR@printlength {<length>}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1436 \newrobustcmd*{\LWR@printlength}[1]{%
1437 \begingroup%
1438 \uselengthunit{PT}%
1439 \renewcommand*{\unitspace}{ }%
1440 \ifdimless{#1}{10pt}{%
1441 \printlength{#1}%
1442 }{%
1443 \rndprintlength{#1}%
1444 }%
1445 \endgroup%
1446 }
```

1447 \end{warpHTML}

## 31 Loading packages

\RequirePackage and \usepackage are modified to error-check for certain packages, and for HTML they load the lwarp- version if it exists.

**for HTML & PRINT:** 1448 \begin{warpall}

Remember the original \RequirePackage:

```
1449 \LetLtxMacro{\LWR@origRequirePackage}{\RequirePackage}
1450 \LetLtxMacro{\LWR@origRequirePackageWithOptions}{\RequirePackageWithOptions}
```

\LWR@requirepackagenames Stores the list of required package names.

1451 \newcommand\*{\LWR@requirepackagenames}{}{}

\LWR@parsedrequirepackagenames Stores the parsed list of required package names after spaces are removed and l warp- is prepended.

```
1452 \newcommand*{\LWR@parsedrequirepackagenames}{}%
```

\LWR@nullifycomment Remove the preexisting comment environment. Certain packages define it for their own use.

```
1453 \newcommand*{\LWR@nullifycomment}{}%
1454 \PackageInfo{l warp}{%
1455 Nullifying the comment environment before loading \LWR@strresulttwo,}%
1456 \let\comment\relax%
1457 \let\endcomment\relax%
1458 }
```

\LWR@findword [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to \StrBetween.

```
1459 \newcommand*{\LWR@findword}[3][,]{%
1460 \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1461 }
```

\LWR@checkloadnever {*bad package name*} {*replacement package names*}

From now on, check for incompatible packages loaded via \usepackage, instead of packages loaded before l warp:

```
1462 \LetLtxMacro{\LWR@checkloadnever}{\LWR@afterloadnever}
```

\LWR@checkloadfilename {*filename*} Checks if this filename should be loaded after l warp, or never at all.

```
1463 \newcommand*{\LWR@checkloadfilename}[1]{%
```

Remember the package name to compare with, to be used by \LWR@checkloadnever and \LWR@checkloadbefore.

```
1464 \edef{\LWR@tempone}{#1}%
```

Check against the list of packages which should never be loaded:

```
1465 \LWR@checkloadnevers
```

The following should only be loaded before l warp:

```
1466 \LWR@checkloadbefore{ctex}%
1467 \LWR@checkloadbefore{fontspec}%
1468 \LWR@checkloadbefore{inputenc}%
1469 \LWR@checkloadbefore{inputenx}%
1470 \LWR@checkloadbefore{nfssext-cfr}
```

```

1471 \LWR@checkloadbefore{fontaxes}
1472 \LWR@checkloadbefore{kotex}
1473 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1474 \LWR@checkloadbefore{luatexja}
1475 \LWR@checkloadbefore{luatexja-fontspec}
1476 \LWR@checkloadbefore{luatexko}
1477 \LWR@checkloadbefore{morewrites}
1478 \LWR@checkloadbefore{newclude}
1479 \LWR@checkloadbefore{newunicodechar}
1480 \LWR@checkloadbefore{plext}
1481 \LWR@checkloadbefore{xeCJK}
1482 \LWR@checkloadbefore{xetexko}
1483 \LWR@checkloadbefore{zxjatype}
1484 }

```

\LWR@lookforpackagename {*<index>*}

If **HTML**, and if this is an **lwarp**-supported package name, re-direct it to the **lwarp** version by renaming it **lwarp-** followed by the original name.

Looks *index* deep into the list of package names, **\LWR@requirepackagenames**, and builds **\LWR@parsedrequirepackagenames** which is the modified list of names.

```
1485 \newcommand*{\LWR@Lookforpackagename}[1]{%
```

Find the *index*'th package name from the list:

```
1486 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in **\LWR@strresult** and the final name with no blanks goes into **\LWR@strresulttwo**.

```
1487 \StrSubstitute[100]{\LWR@strresult}{}{}[\LWR@strresulttwo]%
```

See if the package name was found:

```

1488 \IfStrEq{\LWR@strresulttwo}{}%
1489 {}% no filename
1490 {}% yes filename was found

```

Possible adjustments before loading the package. Maybe nullify the **comment** environment if the new package will be redefining it for a new purpose.

```

1491 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1492 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%

```

If **HTML**, check if the package should be loaded before **lwarp**, or never at all:

```
1493 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

If **HTML**, and if found, and if an **lwarp**-equivalent name exists, use **lwarp-\*** instead.

```
1494 \ifboolexpr{
```

```

1495 bool{warpingHTML} and
1496 test{\IfFileExists{l warp-\LWR@strresulttwo.sty}}
1497 }%
1498 {%
1499 l warp-* file found
1500 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1501 \edef\LWR@parsedrequirepackagenames{l warp-\LWR@strresulttwo}%
1502 }{%
1503 \edef\LWR@parsedrequirepackagenames{%
1504 \LWR@parsedrequirepackagenames, l warp-\LWR@strresulttwo%
1505 }%
1506 }%
1507 }%

```

Otherwise, use the current package name.

```

1508 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1509 \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1510 }{%
1511 \edef\LWR@parsedrequirepackagenames{%
1512 \LWR@parsedrequirepackagenames, \LWR@strresulttwo%
1513 }%
1514 }%
1515 }% no l warp-* file
1516 }% yes filename
1517 }

```

\RequirePackage [⟨1: options⟩] {⟨2: package names⟩} [⟨3: version⟩]

For each of many package names in a comma-separated list, if an l warp version of a package exists, select it instead of the L<sup>A</sup>T<sub>E</sub>X version.

```
1518 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:<sup>17</sup>

```

1519 \renewcommand*{\LWR@requirepackagenames}{#2}%
1520 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1521 \LWR@lookforpackagename{1}%
1522 \LWR@lookforpackagename{2}%
1523 \LWR@lookforpackagename{3}%
1524 \LWR@lookforpackagename{4}%
1525 \LWR@lookforpackagename{5}%
1526 \LWR@lookforpackagename{6}%
1527 \LWR@lookforpackagename{7}%
1528 \LWR@lookforpackagename{8}%
1529 \LWR@lookforpackagename{9}%
1530 \LWR@lookforpackagename{10}%
1531 \LWR@lookforpackagename{11}%
1532 \LWR@lookforpackagename{12}%
1533 \LWR@lookforpackagename{13}%
1534 \LWR@lookforpackagename{14}%

```

---

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

---

```

1535 \LWR@lookforpackagename{15}%
1536 \LWR@lookforpackagename{16}%
1537 \LWR@lookforpackagename{17}%
1538 \LWR@lookforpackagename{18}%
1539 \LWR@lookforpackagename{19}%
1540 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

```

1541 \IfSubStr{\detokenize\expandafter{\#1}}{\LWRleftbrace}%
1542 {%
1543 \PackageError{lwarf}{%
1544 You used:\MessageBreak
1545 \protect\usepackage[#1]{#2}\MessageBreak
1546 Braces in the package options will fail with Lwarf.\MessageBreak
1547 Instead, use:\MessageBreak
1548 \protect\PassOptionsToPackage{\#1}{\#2}\MessageBreak
1549 \protect\usepackage{\#2}\MessageBreak
1550 near the line number given below.\MessageBreak
1551 Enter 'h' for more info%
1552 }%
1553 {%
1554 See the Lwarf manual troubleshooting index entry for\MessageBreak
1555 ‘package, options with braces’%
1556 }%
1557 }
1558 {}% no brace

```

\RequirePackage depending on the options and version:

```

1559 \IfValueTF{\#1}%
1560 {%
1561 options given
1562 \IfValueTF{\#3}{%
1563 version given?
1564 {\LWR@origRequirePackage[\#1]{\LWR@parsedrequirepackagenames}[\#3]}%
1565 }%
1566 {%
1567 no options given
1568 \IfValueTF{\#3}{%
1569 version given?
1570 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[\#3]}%
1571 }%
1572 }%
1573 \LetLtxMacro\usepackage\RequirePackage
1574 \onlypreamble\RequirePackage
1575 \onlypreamble\usepackage
1576 }%
1577 \end{warpall}

```

**for HTML output:** 1575 \begin{warpHTML}

\LWR@ProvidesPackagePass {\langle pkgname\rangle} [\langle version\rangle]

Uses the original package, including options.

```

1576 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1577 \PackageInfo{lwarp}{%
1578 Using package '#1', \MessageBreak
1579 and adding lwarp modifications, including options, \MessageBreak%
1580 }%
1581 \IfValueTF{#2}{%
1582 {\ProvidesPackage{lwarp-#1}[#2]}%
1583 {\ProvidesPackage{lwarp-#1}}%
1584 \DeclareOption*{%
1585 \PassOptionsToPackage{\CurrentOption}{#1}%
1586 }%
1587 \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```

1588 @ifpackageloaded{#1}{%
1589 \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1590 \IfValueTF{#2}{%
1591 {%
1592 \expandafter\LWR@origRequirePackage%
1593 \expandafter[\LWR@tempone]{#1}[#2]%
1594 }%
1595 {%
1596 \expandafter\LWR@origRequirePackage%
1597 \expandafter[\LWR@tempone]{#1}%
1598 }%
1599 }{%
1600 \IfValueTF{#2}{%
1601 {\LWR@origRequirePackage{#1}[#2]}%
1602 {\LWR@origRequirePackage{#1}}%
1603 }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1604 \DeclareOption*{}%
1605 \ProcessOptions\relax%
1606 }

```

`\LWR@ProvidesPackageDropA {<name>} {<date or -NoValue->}`

Declares the package. Factored for reuse.

```

1607 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1608 \PackageInfo{lwarp}{%
1609 Replacing package '#1' with the lwarp version, \MessageBreak
1610 and discarding options,%
1611 }%
1612 \IfValueTF{#2}{%

```

---

```
1613 {\ProvidesPackage{l warp-#1}[#2]}
1614 {\ProvidesPackage{l warp-#1}}
1615 }
```

\LWR@ProvidesPackageDropB Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing \begin{document}”.

```
1616 \newcommand*\LWR@ProvidesPackageDropB{%
1617 % \ProcessOptions\relax% original LaTeX code
1618 \let\ds@\empty% from the original \ProcessOptions
1619 \edef\@curroptions{}% l warp modification to \ProcessOptions
1620 \@process@ptions\relax% from the original \ProcessOptions
1621 }
```

\LWR@ProvidesPackageDrop {⟨pkgname⟩} [⟨version⟩]

Ignores the original package and uses l warp’s version instead. Drops/discards all options.

```
1622 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1623 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1624 \DeclareOption*
```

Process the options:

```
1625 \LWR@ProvidesPackageDropB
1626 }
```

```
1627 \end{warpHTML}
```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1628 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1629 \newwrite\LWR@quickfile%
```

```
1630 \end{warpall}
```

**for HTML output:** 1631 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

1632 \newwrite\LWR@lateximagesfile

1633 \end{warpHTML}

### 33 Include a file

During HTML output, \include{<filename>} causes the following to occur:

1. lwarp creates <filename>\_html\_inc.tex whose contents are:  

$$\input <filename>.tex$$
2. <filename>\_html\_inc.tex is then \included instead of <filename>.tex.
3. <filename>\_html\_inc.aux is automatically generated and used by LATEX.

**for HTML output:** 1634 \begin{warpHTML}

\@include {\<filename>} Modified to load \_html\_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```

1635 \def\@include#1 {%
1636 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1637 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1638 \immediate\closeout\LWR@quickfile% lwarp
1639 \LWR@maybe@orignewpage% changed from clearpage
1640 \if@files
1641 \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1642 \fi
1643 \@tempswatru
1644 \if@partsw
1645 \@tempswafalse
1646 \edef\reserved@b{#1}%
1647 \for\reserved@a:=\partlist\do
1648 {\ifx\reserved@a\reserved@b\@tempswatru\fi}%
1649 \fi
1650 \if@tempswa
1651 \let\@auxout\@partaux
1652 \if@files
1653 \immediate\openout\@partaux #1_html_inc.aux % changed
1654 \immediate\write\@partaux{\relax}%
1655 \fi
1656 \input{#1_html_inc.tex}% changed
1657 \LWR@maybe@orignewpage% changed from clearpage
1658 \writeckpt{#1}%

```

```

1659 \if@filesw
1660 \immediate\closeout\partaux
1661 \fi
1662 \else
1663 \deadcycles\z@
1664 \nameuse{cp@#1}%
1665 \fi
1666 \let\auxout\mainaux%
1667 }

1668 \end{warpHTML}

```

## 34 Copying a file

**for HTML output:** 1669 \begin{warpHTML}

\LWR@copyfile {*source filename*} {*destination filename*}

Used to copy the .toc file to .sidetoc to re-print the toc in the sidetoc navigation pane.

```

1670 \newwrite\LWR@copyoutfile % open the file to write to
1671 \newread\LWR@copyinfile % open the file to read from
1672
1673 \newcommand*{\LWR@copyfile}[2]{%
1674 \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1675
1676 \immediate\openout\LWR@copyoutfile=#2
1677 \openin\LWR@copyinfile=#1
1678 \begingroup\endlinechar=-1
1679 \makeatletter
1680
1681 \LWR@traceinfo{\LWR@copyfile: about to loop}
1682
1683 \loop\unless\ifeof\LWR@copyinfile
1684 \LWR@traceinfo{\LWR@copyfile: one line}
1685 \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1686 % \LWR@fileline\par % print the content into the pdf
1687 % print the content:
1688 \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1689 \repeat
1690 \immediate\closeout\LWR@copyoutfile
1691 \LWR@traceinfo{\LWR@copyfile: done}
1692 \endgroup
1693 }

1694 \end{warpHTML}

```

## 35 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

```
\tracingl warp
```

**for HTML & PRINT:** 1695 `\begin{warpall}`

Bool LWR@tracingl warp True if tracing is turned on.

```
1696 \newbool{LWR@tracingl warp}
```

`\tracingl warp` Turns on the debug tracing messages.

```
1697 \newcommand{\tracingl warp}{\booltrue{LWR@tracingl warp}}
```

`\LWR@traceinfo {<text>}` If tracing is turned on, writes the text to the .log file.

```
1698 \newcommand{\LWR@traceinfo}[1]{%
1699 \ifbool{LWR@tracingl warp}{%
1700 {%
1701 \typeout{*** l warp: #1}%
1702 }%
1703 {}%
1704 }
```

Bool HTMLDebugComments Add comments in HTML about closing `<div>`s, sections, etc.

**Default:** false

```
1705 \newbool{HTMLDebugComments}
1706 \boolfalse{HTMLDebugComments}
```

If `\tracingl warp`, show where preamble hooks occur:

```
1707 \AfterEndPreamble{
1708 \LWR@traceinfo{AfterEndPreamble}
1709 }
1710
1711 \AtBeginDocument{
1712 \LWR@traceinfo{AtBeginDocument}
1713 }

1714 \end{warpall}
```

## 36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside l warp, and is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by L<sup>A</sup>T<sub>E</sub>X and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a *lateximage* environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro, not defined with xparse:** An HTML version is provided with a special name, inside a *warpHTML* environment, then \LWR@formatted is used to redefine and patch various macros:

```
\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may also use xparse

\LWR@formatted{name}
\end{warpHTML}
```

\LWR@formatted{name} copies the original print version, then redefines \name to use either the print or HTML version depending on which mode l warp is using. xparse may be used to define the new HTML version, even if the original did not use xparse. expl3 syntax may be used as well.

**For a preexisting environment, not defined with xparse:** The process is similar. Note the use of \LWR@formattedenv instead of \LWR@formatted.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}% may also use xparse

\LWR@formattedenv{name}
\end{warpHTML}
```

**If the original used xparse:** A copy must be made using a new name:

---

```
\begin{warpHTML}
\NewDocumentCommand{\LWR@print@name}{...}{...}%
 copy the original

\NewDocumentCommand{\LWR@HTML@name}{...}{...}%
 or use \newcommand

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment, using `\LWR@formattedenv`. (`\LWR@formatted` and `\LWR@formattedenv` use `\LetLtxMacro` to copy the original print definition, which may not work with macros and environments created by `xparse`, so the print version must be manually recreated in the `lwarp` source.)

**For a new macro or environment, not using `xparse` for the print version:**

```
\begin{warpall}
\newcommand{\name}{...}%
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}%
 may use xparse for HTML

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment. The plain `\name` or environment name is used for the printed version, and is placed inside `warpall`. `xparse` may be used for the `\LWR@HTML@<name>` version. `expl3` syntax may be used for the print and `HTML` versions.

**For a new macro or environment, using `xparse`:** It is possible to use `xparse` for an entirely new macro or environment by defining the `\LWR@print@<name>` version with `xparse`, along with `\name` defined without `xparse` to refer directly to the `\LWR@print` version:

```
\begin{warpall}
\NewDocumentCommand{\LWR@print@name}{...}{...}%
 -or-
\NewDocumentEnvironment{\LWR@print@name}{...}{...}{...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}%
 -or-
\newenvironment{name}{\LWR@print@name}{\endLWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...}{...}%
 -or-
\NewDocumentEnvironment{\LWR@HTML@name}{...}{...}{...}

\LWR@formatted{name}%
 -or-
\LWR@formattedenv{name}
\end{warpHTML}
```

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
  1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.

Since arguments are not handled by the new `\name`, any star and other arguments are processed by the print or HTML version.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

```
\LWR@expandableformatted
\LWR@expandableformattedenv
```

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

**for HTML output:** 1715 `\begin{warpHTML}`

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

1716 `\newcommand*{\LWR@formatting}{HTML}`

`\LWR@formatted@checkname` `{<name>}`

```
1717 \newcommand*{\LWR@formatted@checkname}[1]{%
1718 \ifcsundef{\#1}{%
1719 \ifcsundef{\LWR@print@{\#1}}{%
1720 \PackageError{lwarp}{%
1721 \LWRbackslash{\#1} or \protect\LWR@print@{\#1}\MessageBreak
1722 must be defined before using \protect\LWR@formatted, etc%
1723 }%
```

```

1724 }
1725 {Perhaps #1 is misspelled.}
1726 }{\relax}%
1727 }{\relax}%
1728 \ifcsundef{LWR@HTML@#1}{%
1729 \PackageError{lwarp}{%
1730 {%
1731 \protect\LWR@HTML@#1 must be defined
1732 before using \protect\LWR@formatted, etc%
1733 }%
1734 {Perhaps #1 is misspelled.}
1735 }{\relax}%
1736 }
```

\LWR@formatted@checkendname {*name*}

```

1737 \newcommand*{\LWR@formatted@checkendname}[1]{%
1738 \ifcsundef{end#1}{%
1739 \ifcsundef{endLWR@print@#1}{%
1740 \PackageError{lwarp}{%
1741 {%
1742 \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
1743 must be defined before using \protect\LWR@formatted, etc%
1744 }%
1745 {Perhaps #1 is misspelled.}
1746 }{\relax}%
1747 }{\relax}%
1748 \ifcsundef{endLWR@HTML@#1}{%
1749 \PackageError{lwarp}{%
1750 {%
1751 \protect\endLWR@HTML@#1 must be defined
1752 before using \protect\LWR@formatted, etc%
1753 }%
1754 {Perhaps #1 is misspelled.}
1755 }{\relax}%
1756 }
```

\LWR@formatted {*macroname*} No backslash in the macro name.

If not yet defined, defines \LWR@print@<name> as the original print-mode \<name>. Also redefines \<name> to use \LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```

1757 \newcommand*{\LWR@formatted}[1]{%
1758 \LWR@formatted@checkname{#1}%
1759 \ifcsundef{LWR@print@#1}{%
1760 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1761 \csname#1\endcsname%
1762 }{%
1763 \ifcsundef{#1}{%
1764 \expandafter\newrobustcmd\csname #1\endcsname{%
1765 \nameuse{LWR@\LWR@formatting @#1}%
1766 }%
1767 }{%
```

```

1768 \expandafter\renewrobustcmd\csname #1\endcsname{%
1769 \@nameuse{LWR@\LWR@formatting @#1}%
1770 }%
1771 }%
1772 }

```

\LWR@expandableformatted {*macroname*} No backslash in the macro name.

An expandable version of \LWR@formatted.

```

1773 \newcommand*{\LWR@expandableformatted}[1]{%
1774 \LWR@formatted@checkname{#1}%
1775 \ifcsundef{LWR@print@#1}{%
1776 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname{%
1777 \csname#1\endcsname}%
1778 }{%
1779 \ifcsundef{#1}{%
1780 \expandafter\newcommand\csname #1\endcsname{%
1781 \@nameuse{LWR@\LWR@formatting @#1}%
1782 }%
1783 }{%
1784 \expandafter\renewcommand\csname #1\endcsname{%
1785 \@nameuse{LWR@\LWR@formatting @#1}%
1786 }%
1787 }%
1788 }

```

\LWR@formattedenv {*environmentname*}

If not yet defined, defines the environment LWR@print@<name> as the original print-mode <name>. Also redefines the environment <name> to use environment LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```

1789 \newcommand*{\LWR@formattedenv}[1]{%
1790 \LWR@formatted@checkname{#1}%
1791 \LWR@formatted@checkendname{#1}%
1792 \ifcsundef{LWR@print@#1}{%
1793 \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname{%
1794 \csname#1\endcsname}%
1795 \csletcs{endLWR@print@#1}{end#1}%
1796 }{%
1797 \DeclareDocumentEnvironment{#1}{}{%
1798 \%%
1799 \@nameuse{LWR@\LWR@formatting @#1}%
1800 }{%
1801 \%%
1802 \@nameuse{endLWR@\LWR@formatting @#1}%
1803 }%
1804 }

```

\LWR@expandableformattedenv {*environmentname*}

An expandable version of \LWR@formattedenv.

```

1805 \newcommand*{\LWR@expandableformattedenv}[1]{%
1806 \LWR@formatted@checkname{#1}%
1807 \LWR@formatted@checkendname{#1}%
1808 \ifcsundef{\LWR@print@#1}{%
1809 \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1810 \csname#1\endcsname%
1811 \csletcs{endLWR@print@#1}{end#1}%
1812 }{%
1813 \DeclareExpandableDocumentEnvironment{#1}{%
1814 {%
1815 \nameuse{\LWR@\LWR@formatting @#1}%
1816 }%
1817 {%
1818 \nameuse{endLWR@\LWR@formatting @#1}%
1819 }%
1820 }%
1821 \end{warpHTML}

```

Print versions.

**for PRINT output:** 1822 \begin{warpprint}

```

1823 \newcommand*{\LWR@formatted}[1]{}
1824 \newcommand*{\LWR@expandableformatted}[1]{}
1825 \newcommand*{\LWR@expandableenvironment}[1]{}
1826 \newcommand*{\LWR@expandableenvironment}[1]{}

1827 \end{warpprint}

```

## 37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1828 \begin{warpall}

### 37.1 User-level controls

**Bool FormatEPUB** Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.  
**Default: false**

```

1829 \newbool{FormatEPUB}
1830 \boolefalse{FormatEPUB}

```

**Bool FormatWP** Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.  
**Default: false**

---

```
1831 \newbool{FormatWP}
1832 \boolfalse{FormatWP}
```

Bool WPMarkFloats Adds

Default: false

```
==== begin table ====
...
==== end ===
```

or

```
==== begin figure ====
...
==== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.<sup>18</sup>

```
1833 \newbool{WPMarkFloats}
1834 \boolfalse{WPMarkFloats}
```

Bool WPMarkMinipages Adds

Default: false

```
==== begin minipage ====
...
==== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1835 \newbool{WPMarkMinipages}
1836 \boolfalse{WPMarkMinipages}
```

Bool WPMarkTOC While formatting for word processors, adds

Default: true

```
==== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

*If set false, the actual toc is printed instead.*

```
1837 \newbool{WPMarkTOC}
1838 \booltrue{WPMarkTOC}
```

Bool WPMarkLOFT While formatting for word processors, adds

Default: false

```
==== list of figures === and/or
==== list of tables ===
```

where each of these lists would have been. This helps identify where to insert the actual lists.

---

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

If set false, the actual lists are printed instead.

```
1839 \newbool{WPMarkLOFT}
1840 \boolefalse{WPMarkLOFT}
```

**Bool WPMarkMath** While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

```
1841 \newbool{WPMarkMath}
1842 \boolefalse{WPMarkMath}
```

**Bool WPTitleHeading** While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 11 on page 194.

```
1843 \newbool{WPTitleHeading}
1844 \boolefalse{WPTitleHeading}
```

```
1845 \end{warpall}
```

## 37.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

**for HTML output:** 1846 \begin{warpHTML}

```
1847 \AtBeginDocument{
1848 \ifbool{FormatWP} {
1849 \@ifundefined{chapter} {
1850 \ifbool{WPTitleHeading}{% part and section starting at h2
1851 \renewcommand*\{\LWR@tagtitle\}{h1}
1852 \renewcommand*\{\LWR@tagtitleend\}{/h1}
1853 \renewcommand*\{\LWR@tagpart\}{h2}
1854 \renewcommand*\{\LWR@tagpartend\}{/h2}
1855 \renewcommand*\{\LWR@tagsection\}{h3}
1856 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1857 \renewcommand*\{\LWR@tagsubsection\}{h4}
1858 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1859 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1860 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1861 \renewcommand*\{\LWR@tagparagraph\}{h6}
1862 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1863 \renewcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
1864 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}}
```

```

1865 }% WPTitleHeading
1866 {% not WPTitleHeading, part and section starting at h1
1867 \renewcommand*\{LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl}
1868 \renewcommand*\{LWR@tagtitleend\}{/div}
1869 \renewcommand*\{LWR@tagpart\}{h1}
1870 \renewcommand*\{LWR@tagpartend\}{/h1}
1871 \renewcommand*\{LWR@tagsection\}{h2}
1872 \renewcommand*\{LWR@tagsectionend\}{/h2}
1873 \renewcommand*\{LWR@tagsubsection\}{h3}
1874 \renewcommand*\{LWR@tagsubsectionend\}{/h3}
1875 \renewcommand*\{LWR@tagsubsubsection\}{h4}
1876 \renewcommand*\{LWR@tagsubsubsectionend\}{/h4}
1877 \renewcommand*\{LWR@tagparagraph\}{h5}
1878 \renewcommand*\{LWR@tagparagraphend\}{/h5}
1879 \renewcommand*\{LWR@tagsubparagraph\}{h6}
1880 \renewcommand*\{LWR@tagsubparagraphend\}{/h6}
1881 }% not WPTitleHeading
1882 }% chapter undefined
1883 {% chapter defined
1884 \ifbool{WPTitleHeading}{}%
1885 {% not WPTitleHeading, part and chapter starting at h1
1886 \renewcommand*\{LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl}
1887 \renewcommand*\{LWR@tagtitleend\}{/div}
1888 \renewcommand*\{LWR@tagpart\}{h1}
1889 \renewcommand*\{LWR@tagpartend\}{/h1}
1890 \renewcommand*\{LWR@tagchapter\}{h2}
1891 \renewcommand*\{LWR@tagchapterend\}{/h2}
1892 \renewcommand*\{LWR@tagsection\}{h3}
1893 \renewcommand*\{LWR@tagsectionend\}{/h3}
1894 \renewcommand*\{LWR@tagsubsection\}{h4}
1895 \renewcommand*\{LWR@tagsubsectionend\}{/h4}
1896 \renewcommand*\{LWR@tagsubsubsection\}{h5}
1897 \renewcommand*\{LWR@tagsubsubsectionend\}{/h5}
1898 \renewcommand*\{LWR@tagparagraph\}{h6}
1899 \renewcommand*\{LWR@tagparagraphend\}{/h6}
1900 \renewcommand*\{LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl}
1901 \renewcommand*\{LWR@tagsubparagraphend\}{/span}
1902 }% not WPTitleHeading
1903 }% chapter defined
1904 }{}% FormatWP
1905 }% AtBeginDocument

1906 \end{warpHTML}

```

## 38 Remembering original formatting macros

**for HTML output:** 1907 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any `teximage` environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```
1908 \chardef\LWR@origpound='\#

1909 \let\LWR@origcomma\
1910 \let\LWR@origthinspace\thinspace
1911 \let\LWR@orignegthinspace\negthinspace
1912 \let\LWR@origtilde~
1913 \let\LWR@origenskip\enskip
1914 \let\LWR@origquad\quad
1915 \let\LWR@origqquad\qquad
1916 \let\LWR@orighfil\hfil
1917 \let\LWR@orighss\hss
1918 \let\LWR@origllap\llap
1919 \let\LWR@origrlap\rlap
1920 \let\LWR@orighfilneg\hfilneg
1921 \let\LWR@orighspace\hspace
1922
1923 \let\LWR@origrule\rule
1924
1925 \let\LWR@origmedskip\medskip
1926 \let\LWR@origbigskip\bigskip
1927
1928 \let\LWR@origtextellipsis\textellipsis

1929 \let\LWR@origvdots\vdots
```

*libertinus-otf* has too much kerning for \textquotedbl, causing an extra space.

```
1930 \LetLtxMacro{\LWR@orig@@textquotedbl}{\textquotedbl}
1931 \LetLtxMacro{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl}
1932
1933 \AtEndPreamble{
1934 \@ifpackageloaded{libertinus-otf}{
1935 \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl\kern-.15em}
1936 \LetLtxMacro{\textquotedbl}{\LWR@orig@textquotedbl}
1937 }{}
1938 }

1939 \LetLtxMacro{\LWR@origttfamily}{\ttfamily}
1940
1941 \LetLtxMacro{\LWR@origem}{\em}
1942
1943 \LetLtxMacro{\LWR@orignormalfont}{\normalfont}
1944
1945 \let\LWR@origonecolumn\onecolumn
1946
1947 \let\LWR@origsp\sp
1948 \let\LWR@origsb\sb
1949
1950 \LetLtxMacro{\LWR@origunderline}{\underline}

1951 \let\LWR@orignewpage\newpage
```

```

1952
1953 \let\LWR@origpagestyle\pagestyle
1954 \let\LWR@origthispagestyle>thispagestyle
1955 \LetLtxMacro{\LWR@origpagenumbering}{\pagenumbering}
1956
1957 \let\LWR@orignewline\newline
1958
1959 \AtBeginDocument{%
1960 \let\LWR@orig@trivlist@\trivlist
1961 \let\LWR@origtrivlist\trivlist
1962 \let\LWR@origendtrivlist\endtrivlist
1963 \LetLtxMacro{\LWR@origitem}{\item}
1964 \LetLtxMacro{\LWR@origitemize}{\itemize}
1965 \LetLtxMacro{\LWR@endorigitemize}{\enditemize}
1966 \LetLtxMacro{\LWR@origenumerate}{\enumerate}
1967 \LetLtxMacro{\LWR@endorigenumerate}{\endenumerate}
1968 \LetLtxMacro{\LWR@origdescription}{\description}
1969 \LetLtxMacro{\LWR@endorigdescription}{\enddescription}
1970 \let\LWR@orig@mklab@\mklab
1971 \let\LWR@origmakelabel\makelabel
1972 \let\LWR@orig@donoparitem@\donoparitem
1973 \LetLtxMacro{\LWR@origitem}{\item}
1974 \let\LWR@orig@nbitem@\nbitem
1975 }
1976
1977 \let\LWR@origpar\par
1978
1979 \LetLtxMacro{\LWR@origfootnote}{\footnote}
1980 \let\LWR@orig@mpfootnotetext@\mpfootnotetext
1981
1982
1983 \AtBeginDocument{%
1984 \LetLtxMacro{\LWR@orighline}{\hline}
1985 \LetLtxMacro{\LWR@origcline}{\cline}
1986 }

1987 \end{warpHTML}

```

## 39 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as \^{} will work, but many more kinds of accents are available when using Unicode-aware X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X. If using accents in section names which will become file names, it is recommended to use the L<sup>A</sup>T<sub>E</sub>X accents such as \^{} and \v{} instead of Unicode accents. The L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

**for HTML output:** 1988 \begin{warpHTML}

Without \AtBeginDocument, \t was being re-defined somewhere.

```
1989 \AtBeginDocument{
```

The following are restored for print when inside a `\textrimage`.

For Unicode engines, only `\t` needs to be redefined:

```
1990 \LetLtxMacro{\LWR@origtie}{\t}
```

For PDF L<sup>A</sup>T<sub>E</sub>X, additional work is required:

```
1991 \ifPDFTeX% pdflatex or dvi latex
1992 \LetLtxMacro{\LWR@origgraveaccent}{`}
1993 \LetLtxMacro{\LWR@origacuteaccent}{`}
1994 \LetLtxMacro{\LWR@origcircumflexaccent}{^}
1995 \LetLtxMacro{\LWR@origtildeaccent}{\~{}}
1996 \LetLtxMacro{\LWR@origmacronaccent}{=}
1997 \LetLtxMacro{\LWR@origbreve}{\u}
1998 \LetLtxMacro{\LWR@origdotaccent}{\.}
1999 \LetLtxMacro{\LWR@origdiaeresisaccent}{\"
2000 \LetLtxMacro{\LWR@origdoubleacuteaccent}{\H}
2001 \LetLtxMacro{\LWR@origcaronaccent}{\v}
2002 \LetLtxMacro{\LWR@origdotbelowaccent}{\d}
2003 \LetLtxMacro{\LWR@origcedillaaccent}{\c}
2004 \LetLtxMacro{\LWR@origmacronbelowaccent}{\b}
```

The HTML redefinitions follow.

For PDF L<sup>A</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```
2005 \renewcommand*{\`}[1]{\#1\HTMLunicode{0300}}
2006 \renewcommand*{\`}[1]{\#1\HTMLunicode{0301}}
2007 \renewcommand*{\^}[1]{\#1\HTMLunicode{0302}}
2008 \renewcommand*{\~}[1]{\#1\HTMLunicode{0303}}
2009 \renewcommand*{\=}[1]{\#1\HTMLunicode{0304}}
2010 \renewcommand*{\u}[1]{\#1\HTMLunicode{0306}}
2011 \renewcommand*{\.}[1]{\#1\HTMLunicode{0307}}
2012 \renewcommand*{\H}[1]{\#1\HTMLunicode{0308}}
2013 \renewcommand*{\H}[1]{\#1\HTMLunicode{030B}}
2014 \renewcommand*{\v}[1]{\#1\HTMLunicode{030C}}
2015 \renewcommand*{\d}[1]{\#1\HTMLunicode{0323}}
2016 \renewcommand*{\c}[1]{\#1\HTMLunicode{0327}}
2017 \renewcommand*{\b}[1]{\#1\HTMLunicode{0331}}
2018 \fi
```

For all engines, a Unicode diacritical tie is used:

```
2019 \def{\LWR@t}{\#1\#1\HTMLunicode{0361}\#2}
2020 \renewcommand*{\t}[1]{\LWR@t}
```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a `\textrimage` is begun.

```
2021 \ifPDFTeX% pdflatex or dvi latex
2022 \newcommand*{\LWR@restoreorigaccents}{%
2023 \LetLtxMacro{\`}{\LWR@origgraveaccent}%
2024 \LetLtxMacro{\`}{\LWR@origacuteaccent}%
2025 \LetLtxMacro{\^}{\LWR@origcircumflexaccent}%
}
```

```

2026 \LetLtxMacro{\~}{\LWR@origtildeaccent}
2027 \LetLtxMacro{\=}{\LWR@origmacronaccent}
2028 \LetLtxMacro{\u}{\LWR@origbreve}
2029 \LetLtxMacro{\.}{\LWR@origdotaccent}
2030 \LetLtxMacro{\"}{\LWR@origdiaeresisaccent}
2031 \LetLtxMacro{\H}{\LWR@origdoubleacuteaccent}
2032 \LetLtxMacro{\v}{\LWR@origcaronaccent}
2033 \LetLtxMacro{\t}{\LWR@origtie}
2034 \LetLtxMacro{\d}{\LWR@origdotbelowaccent}
2035 \LetLtxMacro{\c}{\LWR@origcedillaaccent}
2036 \LetLtxMacro{\b}{\LWR@origmacronbelowaccent}
2037 }%
2038 \else% XeLaTeX, LuaLaTeX:
2039 \newcommand*{\LWR@restoreorigaccents}{%
2040 \LetLtxMacro{\t}{\LWR@origtie}%
2041 }%
2042 \fi%
2043 }% AtBeginDocument
2044 \end{warpHTML}

```

## 40 Configuration files

### 40.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a `pstool` image. `pstool` uses an additional compile for each image using the original document's preamble, which includes `lwarp`, so the `lwarp` configuration files are turned off if `-pstool` is part of the `\jobname`.

Default to no configuration files:

```
2045 \LWR@excludecomment{LWRwriteconf}{writeconf}
```

Generate configuration files if print mode and not `-pstool`:

```

for PRINT output: 2046 \begin{warpprint}
2047 \fullexpandarg%
2048 \IfSubStr*{\jobname}{-pstool}
2049 {
2050 \PackageInfo{lwarp}{%
2051 Jobname with -pstool is found.\MessageBreak
2052 Not generating lwarp configuration files,%
2053 }
2054 }
2055 {
2056 \PackageInfo{lwarp}{Generating lwarp configuration files,}%
2057 \LWR@includecomment{LWRwriteconf}{writeconf}
2058 }
2059 \end{warpprint}

```

## 40.2 <project>.html.tex

File \*\_html.tex Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

2060 \begin{LWRwriteconf}
2061 \immediate\openout\LWR@quickfile=\jobname_html.tex
2062 \immediate\write\LWR@quickfile{%
2063 \detokenize{\PassOptionsToPackage}{%
2064 {warpHTML,BaseJobname=\jobname}{lwarf}}%
2065 }
2066 \immediate\write\LWR@quickfile{%
2067 \detokenize{\input}\string{\jobname.tex}\string }%
2068 }
2069 \immediate\closeout\LWR@quickfile
2070 \end{LWRwriteconf}
```

## 40.3 lwarpmk configuration files

**Config file:**

```
2071 \begin{LWRwriteconf}
```

\LWR@lwarpmkversion The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarf* version number.)

```
2072 \newcommand*\LWR@lwarpmkversion[2]{\LWR@lwarpmkversion}
```

### 40.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```

2073 \ifshellescape
2074 \def\LWR@shellescapecmd{--shell-escape }
2075 \else
2076 \def\LWR@shellescapecmd{}
2077 \fi
```

\LWR@compilecmd {\langle engine\rangle} {\langle suffix\rangle}

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdflatex*, etc. Suffix is empty or \_html

```

2078 \newcommand*\LWR@compilecmd[2]{%
2079 #1 \LWR@shellescapecmd \jobname#2%
2080 }
```

\LWR@addcompilecmd {\langle cmd\rangle} {\langle suffix\rangle}

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or \_html

```
2081 \newcommand*{\LWR@addcompilecmd}[2]{%
2082 \LWRopseq
2083 #1 \jobname#2%
2084 }
```

\LWR@unknownengine Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
2085 \newcommand*{\LWR@unknownengine}{%
2086 \PackageError{l warp}%
2087 {Unknown LATEX engine}%
2088 {%
2089 L warp only knows about pdflatex, DVI latex,
2090 xelatex, lualatex, and upLateX.%%
2091 }%
2092 }
```

\LWR@latexmkvar {<varname>} {<value>}

Adds a *latexmk* variable assignment.

```
2093 \newcommand*{\LWR@latexmkvar}[2]{%
2094 -e
2095 \LWRopquote%
2096 \LWRdollar #1=q/#2/%
2097 \LWRopquote
2098 }
```

\LWR@latexmkcmd {<latexmk options>}

Sets a call to *latexmk* with the given options, possibly adding --shell-escape, and also adding the indexing program.

```
2099 \newcommand*{\LWR@latexmkcmd}[1]{%
2100 latexmk \space \LWR@shellescapecmd \space #1 \space
2101 -recorder \space
2102 \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
2103 }
```

\LWR@Latexmkdvipdfm {<dvipdfm or dvipdfmx>}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
2104 \newcommand*{\LWR@Latexmkdvipdfm}[1]{%
2105 -pdfdvi \space
2106 \LWR@latexmkvar{dvipdf}{%
2107 #1
2108 \@percentchar 0
2109 -o \@percentchar D
2110 \@percentchar S%}
```

```
2111 }
2112 }
```

\LWR@compileuplatex Sets compile options for upLATEX with ujarticle or related classes.

```
2113 \newcommand*{\LWR@compileuplatex}{
2114 \def\LWR@tempprintlatexcmd{%
2115 \LWR@compilecmd{uplatex}{}
2116 \LWR@addcompilecmd{dvipdfmx}{}
2117 }
2118 \def\LWR@tempHTMLlatexcmd{%
2119 \LWR@compilecmd{uplatex}{_html}
2120 \LWR@addcompilecmd{dvipdfmx}{_html}
2121 }
2122 }
```

\LWR@PrintLatexCmd If not set by the user, the following sets the command to use to compile the source to PDF form.

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with --shell-escape:

---

```
[[latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>.html]]
```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %O -o %D %S/'
-recorder
-e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>.html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
2123 \ifbool{\LWR@Latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
2124 \ifpdf
```

For *latexmk* with *pdflatex*:

```
2125 \ifPDFTeX
2126 \def\LWR@Latexcmd{\LWR@Latexmkcmd{-pdf -dvi- -ps-}}
2127 \else
```

For *latexmk* with *lualatex*:

```
2128 \ifLuaTeX
2129 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2130 \else
2131 \LWR@unknownengine
2132 \fi
2133 \fi
2134 \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
2135 \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2136 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2137 \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
2138 \ifbool{\LWR@dvipdfm}{%
2139 \def\LWR@latexcmd{%
2140 \LWR@latexmkcmd{%
2141 \LWR@latexmkdvipdfm{dvipdfm}}%
2142 }%
2143 }%
2144 }{%
2145 \ifbool{\LWR@dvipdfmx}{%
2146 \def\LWR@latexcmd{%
2147 \LWR@latexmkcmd{%
2148 \LWR@latexmkdvipdfm{dvipdfmx}}%
2149 }%
2150 }%
2151 }{%
2152 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}%
2153 }%
2154 }%
2155 \fi
2156 \fi% \ifpdf
```

The final assignment if *latexmk*:

```
2157 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2158 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2159 }% latexmk
```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```
2160 {%
2161 \ifpdf
```

For *pdflatex* or *lualatex*:

```
2162 \ifPDFTeX
```

For *pdflatex*:

```
2163 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
```

```
2164 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
```

```
2165 \else
```

```
2166 \ifLuaTeX
```

For *lualatex*:

```
2167 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
```

```
2168 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
```

```
2169 \else
```

```
2170 \LWR@unknownengine
```

```
2171 \fi
```

```
2172 \fi
```

```
2173 \else% \ifpdf
```

For dvi *latex* or *xelatex*:

```
2174 \ifXeTeX
```

For *xelatex*:

```
2175 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
```

```
2176 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
```

```
2177 \else
```

For dvi *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
2178 \ifbool{LWR@dvipdfm}{
```

For dvi *latex* with *dvipdfm*:

```
2179 \def\LWR@tempprintlatexcmd{%
2180 \LWR@compilecmd{latex}{}
2181 \LWR@addcompilecmd{dvipdfm}{}
2182 }
2183 \def\LWR@tempHTMLlatexcmd{%
2184 \LWR@compilecmd{latex}{_html}
2185 \LWR@addcompilecmd{dvipdfm}{_html}
2186 }
2187 }{
2188 \ifbool{LWR@dvipdfmx}{
```

For dvi *latex* with *dvipdfmx*:

```
2189 \def\LWR@tempprintlatexcmd{%
2190 \LWR@compilecmd{latex}{}
2191 \LWR@addcompilecmd{dvipdfmx}{}
2192 }
```

```

2193 \def\LWR@tempHTMLlatexcmd{%
2194 \LWR@compilecmd{latex}{_html}
2195 \LWR@addcompilecmd{dvipdfmx}{_html}
2196 }
2197 }{\% dvips

```

For dvi *latex* with *dvips* and *ps2pdf*:

```

2198 \def\LWR@tempprintlatexcmd{%
2199 \LWR@compilecmd{latex}{}
2200 \LWR@addcompilecmd{dvips}{}
2201 \LWR@addcompilecmd{ps2pdf}{}.ps
2202 }
2203 \def\LWR@tempHTMLlatexcmd{%
2204 \LWR@compilecmd{latex}{_html}
2205 \LWR@addcompilecmd{dvips}{_html}
2206 \LWR@addcompilecmd{ps2pdf}{_html}.ps
2207 }
2208 }
2209 }
2210 \fi% \ifXeTeX
2211 \fi% \ifpdf
2212 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up<sup>L</sup>A<sub>T</sub>E<sub>X</sub> and *dvipdfmx*:

```

2213 \@ifclassloaded{ujarticle}{\LWR@compileuplateX}{}
2214 \@ifclassloaded{ujbook}{\LWR@compileuplateX}{}
2215 \@ifclassloaded{ujreport}{\LWR@compileuplateX}{}
2216 \@ifclassloaded{utarticle}{\LWR@compileuplateX}{}
2217 \@ifclassloaded{utbook}{\LWR@compileuplateX}{}
2218 \@ifclassloaded{utreport}{\LWR@compileuplateX}{}

```

Only make the setting permanent if the original was empty:

```

2219 \ifdefempty{\LWR@PrintLatexCmd}{%
2220 \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2221 }
2222 \ifdefempty{\LWR@HTMLLateXCmd}{%
2223 \def\LWR@HTMLLateXCmd{\LWR@tempHTMLlatexcmd}
2224 }

```

\LWR@writeconf {<filename>}

Common code for each of *lwarfpmk.conf* and *<project>.lwarfpmkconf*. Each entry is a variable name, the equal sign, and a quoted string inside [[ and ]], which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2225 \newcommand{\LWR@writeconf}[1]{%
2226 \ifcsdef{\LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
2227 \immediate\openout\LWR@quickfile=#1
2228 \immediate\write{\LWR@quickfile}{confversion = [[\LWR@lwarfconfversion]]}
2229 \ifbool{usingOSWindows}{%
2230 \immediate\write{\LWR@quickfile}{opsystem = [[Windows]]}

```

```

2231 }{
2232 \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2233 }
2234 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2235 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2236 \immediate\write\LWR@quickfile{htmldirectory = [[\HTMLFilename]]}
2237 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2238 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2239 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}
2240 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2241 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2242 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2243 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2244 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2245 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2246 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2247 \immediate\closeout\LWR@quickfile
2248 }
2249

2250 \end{LWRwriteconf}

```

### 40.3.2 lwarpmk.conf

**File** lwarpmk.conf lwarpmk.conf is automatically (re-)created by the lwarf package when executing `pdflatex <project.tex>`, or similar for *xelatex* or *lualatex*, in print-document generation mode, which is the default unless the `warpHTML` option is given. lwarpmk.conf is then used by the utility *lwarpmk*.

**Config file:**

```

2251 \begin{LWRwriteconf}
2252
2253 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}
2254
2255 \end{LWRwriteconf}

```

### 40.3.3 <project>.lwarpmkconf

**File** project.lwarpmkconf A project-specific configuration file for *lwarpmk*.

The `makeindex` and `xindy` options have already been handled for `lwarf.conf`.

**Config file:**

```

2256 \begin{LWRwriteconf}
2257
2258 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
2259
2260 \end{LWRwriteconf}

```

## 40.4 lwarf.css

**File** lwarf.css This is the base css layer used by lwarf.

This must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```
2261 \begin{LWRwriteconf}
2262 \begin{filecontents*}[overwrite]{lwarf.css}
2263 /*
2264 CSS stylesheet for the LaTeX Lwarf package
2265 Copyright 2016-2021 Brian Dunn - BD Tech Concepts LLC
2266 */
2267
2268
2269 /* a fix for older browsers: */
2270 header, section, footer, aside, nav, main,
2271 article, figure { display: block; }
2272
2273
2274 A:link {color:#000080 ; text-decoration: none ; }
2275 A:visited {color:#800000 ; }
2276 A:hover {color:#000080 ; text-decoration: underline ;}
2277 A:active {color:#800000 ; }
2278
2279 a.tocbook {display: inline-block ; margin-left: 0em ;
2280 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2281 a.tocpart {display: inline-block ; margin-left: 0em ;
2282 font-weight: bold ;}
2283 a.tocchapter {display: inline-block ; margin-left: 0em ;
2284 font-weight: bold ;}
2285 a.tocsection {display: inline-block ; margin-left: 1em ;
2286 text-indent: -.5em ; font-weight: bold ;}
2287 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2288 text-indent: -.5em ;}
2289 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2290 text-indent: -.5em ;}
2291 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2292 text-indent: -.5em ;}
2293 a.toc subparagraph {display: inline-block ; margin-left: 5em ;
2294 text-indent: -.5em ;}
2295 a.tocfigure {margin-left: 0em}
2296 a.tocsubfigure {margin-left: 2em}
2297 a.toctable {margin-left: 0em}
2298 a.tocsubtable {margin-left: 2em}
2299 a.toctheorem {margin-left: 0em}
2300 a.toclstlisting {margin-left: 0em}
2301
2302 body {
2303 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2304 "Lucida Bright", Georgia, serif;
2305 background: #FAF7F4 ;
2306 color: black ;
2307 margin:0em ;
2308 padding:0em ;
2309 font-size: 100% ;
2310 line-height: 1.2 ;
2311 }
2312
2313 p {margin: 1.5ex 0em 1.5ex 0em ;}
```

```
2314 table p {margin: .5ex 0em .5ex 0em ;}
2315
2316 /* Holds a section number */
2317 span.sectionnumber { margin-right: 0em }
2318
2319 /* Inserted in front of index lines */
2320 span.indexitem {margin-left: 0em}
2321 span.indexsubitem {margin-left: 2em}
2322 span.indexsubsubitem {margin-left: 4em}
2323 div.indexheading {margin-top: 2ex ; font-weight: bold}
2324
2325 div.hidden, span.hidden { display: none ; }
2326
2327 kbd, span.texttt, p span.texttt {
2328 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2329 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2330 "Courier New", monospace;
2331 font-size: 100% ;
2332 }
2333
2334 pre { padding: 3pt ; }
2335
2336 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold; }
2337
2338 span.textit, div.textit, table td.tditshape { font-style: italic; }
2339
2340 table td.tdbfit { font-weight: bold ; font-style:italic }
2341
2342 span.textnormal, div.textnormal {
2343 font-weight: normal;
2344 font-style: normal;
2345 font-variant: normal;
2346 font-variant-numeric: normal ;
2347 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2348 "Lucida Bright", Georgia, serif;
2349 }
2350
2351 span.textmd, div.textmd { font-weight: normal; }
2352
2353 span.textup, div.textup {
2354 font-style: normal;
2355 font-variant: normal;
2356 font-variant-numeric: normal ;
2357 }
2358
2359 span.textsc, div.textsc {
2360 font-variant: small-caps;
2361 font-variant-numeric: oldstyle-nums ;
2362 }
2363
2364 span.textulc, div.textulc {
2365 font-variant: normal ;
2366 font-variant-numeric: normal ;
2367 }
2368
```

```
2369 span.textsl, div.textsl { font-style: oblique; }
2370
2371 span.textrm, div.textrm {
2372 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2373 "Lucida Bright", Georgia, serif;
2374 }
2375
2376 span.textsf, div.textsf {
2377 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2378 Geneva, Verdana, sans-serif ;
2379 }
2380
2381 /* nfssext-cfr lining figures */
2382 span.textln, div.textln {
2383 font-variant-numeric: lining-nums ;
2384 }
2385
2386 /* nfssext-cfr proportional figures */
2387 span.texttp, div.texttp {
2388 font-variant-numeric: proportional-nums ;
2389 }
2390
2391 /* nfssext-cfr tabular figures */
2392 span.texttt, div.texttt {
2393 font-variant-numeric: tabular-nums ;
2394 }
2395
2396 /* nfssext-cfr font weights */
2397 span.textdb, div.textdb {
2398 font-weight: 500 ;
2399 }
2400
2401 span.textsb, div.textsb {
2402 font-weight: 600 ;
2403 }
2404
2405 span.texteb, div.texteb {
2406 font-weight: 800 ;
2407 }
2408
2409 span.textub, div.textub {
2410 font-weight: 900 ;
2411 }
2412
2413 span.textlg, div.textlg {
2414 font-weight: 300 ;
2415 }
2416
2417 span.textel, div.textel {
2418 font-weight: 200 ;
2419 }
2420
2421 span.textul, div.textul {
2422 font-weight: 100 ;
2423 }
```

```
2424
2425
2426
2427 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2428
2429 span.underline {
2430 text-decoration: underline ;
2431 text-decoration-skip: auto ;
2432 }
2433
2434 span.overline {
2435 text-decoration: overline ;
2436 text-decoration-skip: auto ;
2437 }
2438
2439 div.hrule { border-top: 1px solid silver }
2440
2441
2442 /* for vertical text: */
2443 div.verticalrl { writing-mode: vertical-rl }
2444 div.horizontaltb { writing-mode: horizontal-tb }
2445
2446
2447 /* for diagbox */
2448 div.diagboxtitleN { border-bottom: 1px solid gray }
2449 div.diagboxtitleS { border-top: 1px solid gray }
2450
2451 div.diagboxE {
2452 padding-left: 2em ;
2453 text-align: right ;
2454 }
2455
2456 div.diagboxW {
2457 padding-right: 2em ;
2458 text-align: left ;
2459 }
2460
2461
2462
2463 /* For realscripts */
2464 .supsubscript {
2465 display: inline-block;
2466 text-align:left ;
2467 }
2468
2469 .supsubscript sup,
2470 .supsubscript sub {
2471 position: relative;
2472 display: block;
2473 font-size: .7em;
2474 line-height: 1;
2475 }
2476
2477 .supsubscript sup {
2478 top: .3em;
```

```
2479 }
2480
2481 .supsubscript sub {
2482 top: .3em;
2483 }
2484
2485 div.attribution p {
2486 text-align: right ;
2487 font-size: 80%
2488 }
2489
2490 span.poemtitle {
2491 font-size: 120% ; font-weight: bold;
2492 }
2493
2494 pre.tabbing {
2495 font-family: "Linux Libertine Mono O", "Lucida Console",
2496 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2497 "Liberation Mono", "FreeMono", "Andale Mono",
2498 "Nimbus Mono L", "Courier New", monospace;
2499 }
2500
2501 blockquote {
2502 display: block ;
2503 margin-left: 2em ;
2504 margin-right: 2em ;
2505 }
2506
2507 /* quotchap is for the quotchap package */
2508 div.quotchap {
2509 display: block ;
2510 font-style: oblique ;
2511 overflow-x: auto ;
2512 margin-left: 2em ;
2513 margin-right: 2em ;
2514 }
2515
2516 blockquote p, div.quotchap p {
2517 line-height: 1.5;
2518 text-align: left ;
2519 font-size: .85em ;
2520 }
2521
2522 /* qauthor is for the quotchap package */
2523 div.qauthor {
2524 display: block ;
2525 text-align: right ;
2526 margin-left: auto ;
2527 margin-right: 2em ;
2528 font-size: 80% ;
2529 font-variant: small-caps;
2530 }
2531
2532 div.qauthor p {
2533 text-align: right ;
```

```
2534 }
2535
2536 div.epigraph, div.dictum {
2537 line-height: 1.2;
2538 text-align: left ;
2539 padding: 3ex 1em 0ex 1em ;
2540 /* margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2541 margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2542 /* margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2543 font-size: .85em ;
2544 max-width: 27em ;
2545 }
2546
2547 div.epigraphsource, div.dictumauthor {
2548 text-align:right ;
2549 margin-left:auto ;
2550 /* max-width: 50% ; */
2551 border-top: 1px solid #A0A0A0 ;
2552 padding-bottom: 3ex ;
2553 line-height: 1.2;
2554 }
2555
2556 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2557 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2558 div.dictumauthor { font-style:italic }
2559
2560
2561 /* copyrightbox package: */
2562 div.copyrightbox { margin: .5ex .5em }
2563 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2564 div.copyrightboxnote {text-align: left ; font-size: 60%}
2565
2566
2567 /* lettrine package: */
2568 span.lettrine { font-size: 4ex ; float: left ; }
2569 span.lettrinetext { font-variant: small-caps ; }
2570
2571 /* ulem, soul, umoline packages: */
2572 span.uline {
2573 text-decoration: underline ;
2574 text-decoration-skip: auto ;
2575 }
2576
2577 span.uunderline {
2578 text-decoration: underline ;
2579 text-decoration-skip: auto ;
2580 text-decoration-style: double ;
2581 }
2582
2583 span.uwave {
2584 text-decoration: underline ;
2585 text-decoration-skip: auto ;
2586 text-decoration-style: wavy ;
2587 }
2588
```

```
2589 span.sout {
2590 text-decoration: line-through ;
2591 }
2592
2593 span.oline {
2594 text-decoration: overline ;
2595 text-decoration-skip: auto ;
2596 }
2597
2598 span.xout {
2599 text-decoration: line-through ;
2600 }
2601
2602 span.dashuline {
2603 text-decoration: underline ;
2604 text-decoration-skip: auto ;
2605 text-decoration-style: dashed ;
2606 }
2607
2608 span.dotuline {
2609 text-decoration: underline ;
2610 text-decoration-skip: auto ;
2611 text-decoration-style: dotted ;
2612 }
2613
2614 span.letterspacing { letter-spacing: .2ex ; }
2615
2616 span.capsspacing {
2617 font-variant: small-caps ;
2618 letter-spacing: .1ex ;
2619 }
2620
2621 span.highlight { background: #F8E800 ; }
2622
2623
2624 /* keystroke package: */
2625 span.keystroke {
2626 border-style: outset ;
2627 padding: 0pt .5em 0pt .5em ;
2628 }
2629
2630
2631 html body {
2632 margin: 0 ;
2633 line-height: 1.2;
2634 }
2635
2636
2637 body div {
2638 margin: 0ex;
2639 }
2640
2641
2642 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2643 {
```

```
2644 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2645 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2646 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2647 "Times New Roman", serif;
2648 font-style: normal ;
2649 font-weight: bold ;
2650 text-align: left ;
2651 }
2652
2653 h1 { /* title of the entire website, used on each page */
2654 text-align: center ;
2655 font-size: 2.5em ;
2656 padding: .4ex 0em 0ex 0em ;
2657 }
2658
2659 div.book {
2660 text-align: center ;
2661 font-size: 2.325em ;
2662 padding: .4ex 0em 0ex 0em ;
2663 }
2664
2665 h2 { font-size: 2.25em }
2666 h3 { font-size: 2em }
2667 h4 { font-size: 1.75em }
2668 h5 { font-size: 1.5em }
2669 h6 { font-size: 1.25em }
2670 span.paragraph {font-size: 1em ; font-variant: normal ;
2671 margin-right: 1em ; }
2672 span.subparagraph {font-size: 1em ; font-variant: normal ;
2673 margin-right: 1em ; }
2674
2675 div.minisec {
2676 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2677 Geneva, Verdana, sans-serif ;
2678 font-style: normal ;
2679 font-weight: bold ;
2680 text-align: left ;
2681 }
2682
2683 h1 {
2684 margin: 0ex 0em 0ex 0em ;
2685 line-height: 1.3;
2686 text-align: center ;
2687 }
2688
2689 h2 {
2690 margin: 1ex 0em 1ex 0em ;
2691 line-height: 1.3;
2692 text-align: center ;
2693 }
2694
2695 h3 {
2696 margin: 3ex 0em 1ex 0em ;
2697 line-height: 1.3;
2698 }
```

```
2699
2700 h4 {
2701 margin: 3ex 0em 1ex 0em ;
2702 line-height: 1.3;
2703 }
2704
2705 h5 {
2706 margin: 3ex 0em 1ex 0em ;
2707 line-height: 1.3;
2708 }
2709
2710 h6 {
2711 margin: 3ex 0em 1ex 0em ;
2712 line-height: 1.3;
2713 }
2714
2715
2716 div.titlepage {
2717 text-align: center ;
2718 }
2719
2720 .footnotes {
2721 text-align: left ;
2722 font-size: .85em ;
2723 margin: 3ex 2em 0ex 2em ;
2724 border-top: 1px solid silver ;
2725 }
2726
2727 .marginpar, .marginparblock {
2728 max-width: 50%;
2729 float: right ;
2730 clear: both ;
2731 text-align: left ;
2732 margin: 1ex 0.5em 1ex 1em ;
2733 padding: 1ex 0.5em 1ex 0.5em ;
2734 font-size: 85% ;
2735 border-top: 1px solid silver ;
2736 border-bottom: 1px solid silver ;
2737 overflow-x: auto ;
2738 }
2739
2740 .marginpar br { margin-bottom: 2ex ; }
2741
2742 div.marginblock, div.marginparblock {
2743 max-width:50%;
2744 min-width: 10em; /* room for caption */
2745 float:right;
2746 text-align:left;
2747 margin: 1ex 0.5em 1ex 1em ;
2748 padding: 1ex 0.5em 1ex 0.5em ;
2749 overflow-x: auto;
2750 }
2751
2752 div.marginblock div.minipage,
2753 div.marginparblock div.minipage {
```

```
2754 display: inline-block ;
2755 margin: 0pt auto 0pt auto ;
2756 }
2757
2758 div.marginblock div.minipage p ,
2759 div.marginparblock div.minipage p
2760 { font-size: 85%}
2761
2762 div.marginblock br ,
2763 div.marginparblock br
2764 { margin-bottom: 2ex ; }
2765
2766 main.bodycontainer {
2767 float: left ;
2768 width: 80% ;
2769 }
2770
2771 div.bodywithoutsidetoc main.bodycontainer {
2772 float: none ;
2773 width: 100% ;
2774 }
2775
2776 section.textbody div.footnotes{
2777 margin: 3ex 2em .5ex 2em ;
2778 border-bottom: 2px solid silver ;
2779 }
2780
2781 .footnoteheader {
2782 border-top: 2px solid silver ;
2783 margin-top: 3ex ;
2784 padding-top: 1ex ;
2785 font-weight: bold ;
2786 }
2787
2788 .mpfootnotes {
2789 text-align: left ;
2790 font-size: .85em ;
2791 margin-left: 1em ;
2792 border-top: 1px solid silver ;
2793 }
2794
2795 /* Remove footnote top border in the title page. */
2796 div.titlepage div.mpfootnotes {
2797 border-top: none ;
2798 }
2799
2800
2801
2802 ul, ol {
2803 margin: 1ex 1em 1ex 0em;
2804 line-height: 1.2;
2805 }
2806
2807 body dir, body menu {
2808 margin: 3ex 1em 3ex 0em;
```

```
2809 line-height: 1.2;
2810 }
2811
2812 li { margin: 0ex 0em 1ex 0em; }
2813
2814 html {
2815 margin: 0;
2816 padding: 0;
2817 }
2818
2819 .programlisting {
2820 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2821 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2822 "Courier New", monospace;
2823 margin: 1ex 0ex 1ex 0ex ;
2824 padding: .5ex 0pt .5ex 0pt ;
2825 overflow-x: auto;
2826 }
2827
2828 section.textbody>pre.programlisting {
2829 border-top: 1px solid silver ;
2830 border-bottom: 1px solid silver ;
2831 }
2832
2833
2834 div.displaymath {
2835 text-align: center ;
2836 }
2837
2838 div.displaymathnumbered {
2839 text-align: right ;
2840 margin-left: 5% ;
2841 margin-right: 5% ;
2842 min-width: 2.5in ;
2843 }
2844
2845 @media all and (min-width: 400px) {
2846 div.displaymathnumbered {
2847 margin-left: 10% ;
2848 margin-right: 10% ;
2849 }
2850 }
2851
2852 @media all and (min-width: 800px) {
2853 div.displaymathnumbered {
2854 margin-right: 20% ;
2855 }
2856 }
2857
2858 @media all and (min-width: 1200px) {
2859 div.displaymathnumbered {
2860 margin-right: 30% ;
2861 }
2862 }
2863
```

```
2864
2865 .inlineprogramlisting {
2866 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2867 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2868 "Courier New", monospace;
2869 overflow-x: auto;
2870 }
2871
2872 span.listinglabel {
2873 display: inline-block ;
2874 font-size: 70% ;
2875 width: 4em ;
2876 text-align: right ;
2877 margin-right: 2em ;
2878 }
2879
2880 div.abstract {
2881 margin: 2em 5% 2em 5% ;
2882 padding: 1ex 1em 1ex 1em ;
2883 /* font-weight: bold ; */
2884 font-size: 90% ;
2885 text-align: left ;
2886 }
2887
2888 div.abstract dl {line-height:1.5;}
2889 div.abstract dt {color:#304070;}
2890
2891 div.abstracttitle{
2892 font-family: "URW Classico", Optima, "Linux Biolinum O",
2893 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2894 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2895 font-weight:bold;
2896 font-size:1.25em;
2897 text-align: center ;
2898 }
2899
2900 span.abstractrunintitle{
2901 font-family: "URW Classico", Optima, "Linux Biolinum O",
2902 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2903 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2904 font-weight:bold;
2905 }
2906
2907
2908 .verbatim {
2909 overflow-x: auto ;
2910 }
2911
2912 .alltt {
2913 overflow-x: auto ;
2914 }
2915
2916
2917 .bverbatim {
2918 margin: 1ex 0pt 1ex 0pt ;
```

```
2919 padding: .5ex 0pt .5ex 0pt ;
2920 overflow-x: auto ;
2921 }
2922
2923 .lverbatim {
2924 margin: 1ex 0pt 1ex 0pt ;
2925 padding: .5ex 0pt .5ex 0pt ;
2926 overflow-x: auto ;
2927 }
2928
2929 .fancyvrb {
2930 font-size:.85em ;
2931 margin: 3ex 0pt 3ex 0pt
2932 }
2933
2934 .fancyvrblabel {
2935 font-size: .85em ;
2936 text-align: center ;
2937 font-weight: bold ;
2938 margin-top: 1ex ;
2939 margin-bottom: 1ex ;
2940 }
2941
2942
2943 .verse {
2944 font-family: "Linux Libertine Mono O", "Lucida Console",
2945 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2946 "Liberation Mono", "FreeMono", "Andale Mono",
2947 "Nimbus Mono L", "Courier New", monospace;
2948 margin-left: 1em ;
2949 }
2950
2951
2952 div.singlespace { line-height: 1.2 ; }
2953 div.onehalfspace { line-height: 1.5 ; }
2954 div.doublespace { line-height: 2 ; }
2955
2956
2957 /* Word processor format output: */
2958 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2959 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2960 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2961
2962
2963
2964
2965 /* Minipage environments, vertically aligned to top, center, bottom: */
2966 .minipage, .fminipage, .fcolorminipage {
2967 /* display: inline-block ; */
2968 /* Mini pages which follow each other will be tiled. */
2969 text-align:left;
2970 margin: .25em .25em .25em .25em;
2971 padding: .25em .25em .25em .25em;
2972 display: inline-flex;
2973 flex-direction: column ;
```

```
2974 overflow: auto;
2975 }
2976
2977 .inlineminipage {
2978 display: inline-block ;
2979 text-align: left
2980 }
2981
2982 /* Paragraphs in the flexbox did not collapse their margins. */
2983 /* Have not yet researched this. */
2984 .minipage p {margin: .75ex 0em .75ex 0em ;}
2985
2986 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2987 .fcolorbox .minipage, .fcolorboxBlock .minipage
2988 {border: none ; background: none;}
2989
2990 .fbox, .fboxBlock { border: 1px solid black ; padding: 4pt }
2991
2992 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2993 .fminipage, .fcolorminipage
2994 {display: inline-block}
2995
2996 .shadowbox, .shabox {
2997 border: 1px solid black;
2998 box-shadow: 3px 3px 3px #808080 ;
2999 border-radius: 0px ;
3000 padding: .4ex .3em .4ex .3em ;
3001 margin: 0pt .3ex 0pt .3ex ;
3002 display: inline-block ;
3003 }
3004
3005 .doublebox {
3006 border: 3px double black;
3007 border-radius: 0px ;
3008 padding: .4ex .3em .4ex .3em ;
3009 margin: 0pt .3ex 0pt .3ex ;
3010 display: inline-block ;
3011 }
3012
3013 .ovalbox, .Ovalbox {
3014 border: 1px solid black;
3015 border-radius: 1ex ;
3016 padding: .4ex .3em .4ex .3em ;
3017 margin: 0pt .3ex 0pt .3ex ;
3018 display: inline-block ;
3019 }
3020
3021 .Ovalbox { border-width: 2px ; }
3022
3023 .framebox {
3024 border: 1px solid black;
3025 border-radius: 0px ;
3026 padding: .3ex .2em 0ex .2em ;
3027 margin: 0pt .1ex 0pt .1ex ;
3028 display: inline-block ;
```

```
3029 }
3030
3031
3032 /* mdframed, tcolorbox, shadebox packages */
3033 .mdframed, .tcolorbox, .shadebox {
3034 padding: 0ex ;
3035 margin: 2ex 0em 2ex 0em ;
3036 border: 1px solid black ;
3037 }
3038
3039 .tcolorbox {
3040 border-radius: 10pt ;
3041 margin: 2ex 1em 2ex 1em ;
3042 }
3043
3044 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
3045
3046 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3047
3048 .mdframedtitle, .tcolorboxtitle {
3049 padding: .5ex 0pt 0pt 0pt ;
3050 border-radius: 10pt 10pt 0pt 0pt ;
3051 display: block ;
3052 margin-bottom: 1ex ;
3053 border-bottom: 1px solid silver ;
3054 }
3055
3056 .tcolorboxsubtitle .tcolorbox {
3057 margin: 2ex 0em 2ex 0em ;
3058 border-radius: 0pt ;
3059 }
3060
3061 .mdframedsubtitle {
3062 display: block ;
3063 }
3064
3065 .mdframedsubsubtitle {
3066 display: block ;
3067 }
3068
3069 .mdtheorem {
3070 padding: 0ex .5em 0ex .5em ;
3071 margin: 3ex 5% 3ex 5% ;
3072 }
3073
3074
3075 /* framed package */
3076 .framed, pre.boxedverbatim, fcolorbox {
3077 margin: 3ex 0em 3ex 0em ;
3078 border: 1px solid black;
3079 border-radius: 0px ;
3080 padding: .3ex 1em 0ex 1em ;
3081 display: block ;
3082 }
3083
```

```
3084 .shaded {
3085 margin: 3ex 0em 3ex 0em ;
3086 padding: .3ex 1em .3ex 1em ;
3087 display: block ;
3088 }
3089
3090 .snugframed {
3091 margin: 3ex 0em 3ex 0em ;
3092 border: 1px solid black;
3093 border-radius: 0px ;
3094 display: block ;
3095 }
3096
3097 .framedleftbar {
3098 margin: 3ex 0em 3ex 0em ;
3099 border-left: 3pt solid black;
3100 border-radius: 0px ;
3101 padding: .3ex .2em .3ex 1em ;
3102 display: block ;
3103 }
3104
3105 .framedtitle {
3106 margin: 0em ;
3107 padding: 0em ;
3108 font-size: 130%
3109 }
3110
3111 .framedtitle p { padding: .3em }
3112
3113
3114 /* For the niceframe package: */
3115
3116 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3117 padding: 1ex ;
3118 margin: 2ex auto ;
3119 border-radius: 2ex ;
3120 }
3121
3122 div.niceframe {
3123 border: 6px groove black ;
3124 }
3125
3126 div.curlyframe {
3127 border-left: 3px dotted black ;
3128 border-right: 3px dotted black ;
3129 border-radius: 6ex ;
3130 }
3131
3132 div.artdecoframe {
3133 border-left: 10px double black ;
3134 border-right: 10px double black ;
3135 border-radius: 6ex ;
3136 }
3137
3138 div.generalframe {
```

```
3139 border: 6px groove black ;
3140 }
3141
3142
3143 /* For beamerarticle: */
3144 div.beamerframe {
3145 margin: 3ex 1em 3ex 1em ;
3146 border: 1px solid gray;
3147 border-radius: 0px ;
3148 padding: .3ex 1em 0ex 1em ;
3149 display: block ;
3150 }
3151
3152
3153 dl {
3154 margin: 1ex 2em 1ex 0em;
3155 line-height: 1.3;
3156 }
3157
3158 dl dt {
3159 display: block ;
3160 float:left ;
3161 font-weight: bold;
3162 padding-right: 1em ;
3163 }
3164
3165 dl dd { display: block ; }
3166
3167 dl dd:after { content: "" ; display: block ; clear: both }
3168
3169 dl dd p { margin-top: 0em; }
3170
3171 dd ul, dd ol, dd dl {
3172 clear: both ;
3173 /* padding-top: 1ex ; */
3174 }
3175
3176
3177 nav {
3178 font-family: "URW Classico", Optima, "Linux Biolinum O",
3179 "DejaVu Sans", "Bitstream Vera Sans",
3180 Geneva, Verdana, sans-serif ;
3181 margin-bottom: 4ex ;
3182 }
3183
3184 nav p {
3185 line-height: 1.2 ;
3186 margin-top:.5ex ;
3187 margin-bottom:.5ex;
3188 font-size: .9em ;
3189 }
3190
3191
3192
3193 img, img.hyperimage, img.borderimage {
```

```
3194 max-width: 600px;
3195 border: 1px solid silver;
3196 box-shadow: 3px 3px 3px #808080 ;
3197 padding: .5% ;
3198 margin: .5% ;
3199 background: none ;
3200 }
3201
3202 img.inlineimage{
3203 padding: 0px ;
3204 box-shadow: none ;
3205 border: none ;
3206 background: none ;
3207 margin: 0px ;
3208 display: inline-block ;
3209 border-radius: 0px ;
3210 }
3211
3212 img.logoimage{
3213 max-width: 300px ;
3214 box-shadow: 3px 3px 3px #808080 ;
3215 border: 1px solid black ;
3216 background:none ;
3217 padding:0 ;
3218 margin:.5ex ;
3219 border-radius: 10px ;
3220 }
3221
3222
3223 .section {
3224 /*
3225 To have each section float relative to each other:
3226 */
3227 /*
3228 display: block ;
3229 float: left ;
3230 position: relative ;
3231 background: white ;
3232 border: 1px solid silver ;
3233 padding: .5em ;
3234 */
3235 margin: 0ex .5em 0ex .5em ;
3236 padding: 0 ;
3237 }
3238
3239
3240 figure {
3241 margin: 5ex auto 5ex auto ;
3242 padding: 1ex 1em 1ex 1em ;
3243 overflow-x: auto ;
3244 }
3245
3246
3247 /* To automatically center images in figures: */
3248 /*
```

```
3249 figure img.inlineimage {
3250 margin: 0ex auto 0ex auto ;
3251 display: block ;
3252 }
3253 */
3254
3255 /* To automatically center minipages in figures: */
3256 /*
3257 figure div.minipage, figure div.minipage div.minipage {
3258 margin: 1ex auto 1ex auto ;
3259 display: block ;
3260 }
3261 */
3262
3263 figure figure { margin: 0pt }
3264
3265 figure div.minipage p { font-size: 85% ; }
3266
3267 figure.subfigure, figure.subtable {
3268 display: inline-block ; margin: 3ex 1em 3ex 1em ;
3269 }
3270
3271 div.figurecaption .minipage { margin:0 ; padding: 0 }
3272
3273 /* for subcaptions: */
3274 figure div.minipage div.figurecaption {
3275 max-width: 100% ; /* fallback if min() does not work */
3276 max-width: min(30em,100%)
3277 }
3278
3279 div.minipage figure { border: none ; box-shadow: none ; }
3280 div.minipage figure.table { margin: 0ex }
3281 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3282
3283 div.floatrow { text-align: center; }
3284
3285 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3286
3287 div.floatfoot { font-size: .85em ;
3288 border-top: 1px solid silver ; line-height: 1.2 ; }
3289
3290 /* Center if only one line, "start" align if more than one line: */
3291 div.figurecaption , .lstlistingtitle {
3292 font-size: .85em ;
3293 font-weight: bold ;
3294 text-align: start ;
3295 margin: 1ex auto;
3296 width: max-content;
3297 max-width: 100%;
3298 }
3299
3300 /* A marginblock is small, so always center and don't mess with the width. */
3301 div.marginblock div.figurecaption {
3302 width: 100% ;
3303 text-align: center ;
```

```
3304 }
3305
3306 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3307 border-bottom: none ; background: none ;
3308 }
3309
3310 div.nonfloatcaption {
3311 margin: 1ex auto 1ex auto ;
3312 font-size: .85em ;
3313 text-align: center ;
3314 font-weight: bold ;
3315 }
3316
3317 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3318 figure div.floatrow div.minipage div.figurecaption {
3319 border: none ;
3320 background: none ;
3321 }
3322
3323
3324 /* For packages such as float, rotfloat, and algorithm2e: */
3325
3326 figure.boxed, figure.boxruled {
3327 border: 1px solid black ;
3328 }
3329
3330 figure.ruled {
3331 border-top: 1px solid black ;
3332 border-bottom: 1px solid black ;
3333 border-left: 0px ;
3334 border-right: 0px ;
3335 border-radius: 0px ;
3336 background: none ;
3337 box-shadow: none ;
3338 }
3339
3340 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3341 border-top: 1px solid silver ;
3342 border-bottom: 1px solid silver ;
3343 }
3344
3345
3346 table {
3347 margin: 1ex auto 1ex auto ;
3348 border-collapse: separate ;
3349 border-spacing: 0px ;
3350 line-height: 1.3 ;
3351 }
3352
3353 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3354 margin-bottom: 0ex ; } /* for \hline */
3355
3356 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3357 margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3358
```

```
3359 td {padding: .5ex .5em .5ex .5em ;}
3360
3361 table td.tdl { text-align: left ; vertical-align: middle ; }
3362 table td.tdc { text-align: center ; vertical-align: middle ; }
3363 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3364 table td.tdbang { text-align: center ; vertical-align: middle ; }
3365 table td.tdr { text-align: right ; vertical-align: middle ; }
3366 table td.tdp { text-align: left ; vertical-align: bottom ; }
3367 table td.tdm { text-align: left ; vertical-align: middle ; }
3368 table td.tdb { text-align: left ; vertical-align: top ; }
3369
3370 table td.tvertbarl { border-left: 1px solid black }
3371 table td.tvertbarldouble { border-left: 4px double black }
3372 table td.tvertbarr { border-right: 1px solid black }
3373 table td.tvertbarrdouble { border-right: 4px double black }
3374
3375 table td.tvertbarldash { border-left: 1px dashed black }
3376 table td.tvertbarldoubledash { border-left: 2px dashed black }
3377 table td.tvertbarrdash { border-right: 1px dashed black }
3378 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3379
3380 table td.tdcenter { text-align: center}
3381 table td.tdleft { text-align: left}
3382 table td.tdright { text-align: right}
3383
3384
3385 /* for cmidrules: */
3386 table td.tdrule {
3387 border-top: 1px solid #A0A0A0 ;
3388 }
3389
3390 table td.tdrulel {
3391 border-top-left-radius:.5em ;
3392 border-top: 1px solid #A0A0A0 ;
3393 }
3394
3395 table td.tdruler {
3396 border-top-right-radius:.5em ;
3397 border-top: 1px solid #A0A0A0 ;
3398 }
3399
3400 table td.tdrulelr {
3401 border-top-left-radius:.5em ;
3402 border-top-right-radius:.5em ;
3403 border-top: 1px solid #A0A0A0 ;
3404 }
3405
3406
3407 /* Margins of paragraphs inside table cells: */
3408 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3409 padding-bottom: 1ex ; margin: 0ex ; }
3410 td.tdm p , td.tmbrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3411 padding-bottom: 1ex ; margin: 0ex ; }
3412 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3413 padding-bottom: 1ex ; margin: 0ex ; }
```

```
3414
3415 td.tdp , td.tdprule , td.tdP , td.tdPrule
3416 { padding: 0ex .5em 0ex .5em ; }
3417 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3418 { padding: 0ex .5em 0ex .5em ; }
3419 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3420 { padding: 0ex .5em 0ex .5em ; }
3421
3422
3423 /* table notes: */
3424 .tnotes {
3425 margin: 0ex 5% 1ex 5% ;
3426 padding: 0.5ex 1em 0.5ex 1em;
3427 font-size:.80em;
3428 text-align: left ;
3429 }
3430
3431 .minipage .tnotes {
3432 margin: 0pt ;
3433 padding: 0pt ;
3434 }
3435
3436 .tnotes dl dt p {margin-bottom:0px;}
3437
3438 .tnoteitemheader {margin-right: 1em;}
3439
3440
3441 /* for colortbl and cell color */
3442 div.cellcolor {
3443 width: 100% ;
3444 padding: .5ex .5em .5ex .5em ;
3445 margin: -.5ex -.5em -.5ex -.5em ;
3446 }
3447
3448
3449 /* for lyluatex */
3450 span.lyluatex {
3451 display: inline-block ;
3452 }
3453
3454 div.lyluatex p span.lateximagesource img {
3455 display: block ;
3456 margin-top: 3ex ;
3457 margin-bottom: 3ex ;
3458 }
3459
3460
3461 /* for bigdelim */
3462 .ldelim, .rdelim { font-size: 200% }
3463
3464
3465 /* center, flushleft, flushright environments */
3466 div.center{text-align:center;}
3467 div.center table {margin-left:auto;margin-right:auto;}
3468 div.flushleft{text-align:left;}
```

```
3469 div.flushleft table {margin-left:0em ; margin-right:auto;}
3470 div.flushright{text-align:right;}
3471 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3472
3473
3474 /* Fancybox */
3475 div.Btrivlist table tr td {
3476 padding: .2ex 0em ;
3477 }
3478
3479
3480 /* program listing callouts: */
3481 span.callout {
3482 font-family: "DejaVu Sans", "Bitstream Vera Sans",
3483 Geneva, Verdana, sans-serif ;
3484 border-radius: .5em;
3485 background-color:black;
3486 color:white;
3487 padding:0px .25em 0px .25em;
3488 margin: 0 ;
3489 font-weight: bold;
3490 font-size:.72em ;
3491 }
3492
3493 div.programlisting pre.verbatim span.callout{
3494 font-size: .85em ;
3495 }
3496
3497 span.verbatim {
3498 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3499 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3500 "Courier New", monospace;
3501 }
3502
3503
3504
3505 div.titlehead
3506 {
3507 text-align: left ;
3508 font-style: normal ;
3509 font-weight: normal ;
3510 font-style: normal ;
3511 font-size: .8em ;
3512 margin: 1ex 0em 1ex 0em ;
3513 }
3514
3515 div.subject
3516 {
3517 text-align: center ;
3518 font-style: normal ;
3519 font-weight: bold ;
3520 font-style: normal ;
3521 font-size: .8em ;
3522 margin: 1ex 0em 1ex 0em ;
3523 }
```

```
3524
3525 div.published
3526 {
3527 text-align: center ;
3528 font-variant: normal ;
3529 font-style: italic ;
3530 font-size: 1em ;
3531 margin: 1ex 0em 1ex 0em ;
3532 }
3533
3534 div.subtitle
3535 {
3536 text-align: center ;
3537 font-variant: normal ;
3538 font-style: italic ;
3539 font-size: 1.25em ;
3540 margin: 1ex 0em 1ex 0em ;
3541 }
3542
3543 div.subtitle p { margin: 1ex ; }
3544
3545 div.author
3546 {
3547 text-align: center ;
3548 font-variant: normal ;
3549 font-style: normal ;
3550 font-size: 1em ;
3551 margin: 1ex 0em 1ex 0em ;
3552 }
3553
3554 div.oneauthor {
3555 display: inline-block ;
3556 margin: 0ex 1em 0ex 1em ;
3557 }
3558
3559 /*
3560 div.author table {
3561 margin: 1ex auto 0ex auto ;
3562 background: none ;
3563 }
3564
3565 div.author table tbody tr td { padding: .25ex ; }
3566 */
3567
3568 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3569
3570 div.titledate {
3571 text-align: center ;
3572 font-size: .85em ;
3573 font-style: italic;
3574 margin: 1ex 0em 1ex 0em ;
3575 }
3576
3577
3578 nav.topnavigation{
```

```
3579 text-align: left ;
3580 padding: 0.5ex 1em 0.5ex 1em ;
3581 /* margin: 2ex 0em 3ex 0em ; */
3582 margin: 0 ;
3583 border-bottom: 1px solid silver ;
3584 border-top: 1px solid silver ;
3585 clear:both ;
3586 }
3587
3588 nav.botnavigation{
3589 text-align: left ;
3590 padding: 0.5ex 1em 0.5ex 1em ;
3591 /* margin: 3ex 0em 2ex 0em ; */
3592 margin: 0 ;
3593 border-top: 1px solid silver ;
3594 border-bottom: 1px solid silver ;
3595 clear:both ;
3596 }
3597
3598
3599 header {
3600 line-height: 1.2 ;
3601 font-size: 1em ;
3602 border-bottom: 1px solid silver ;
3603 margin: 0px ;
3604 padding: 2ex 1em 2ex 1em ;
3605 text-align:left ;
3606 }
3607
3608
3609 footer {
3610 font-size: .85em ;
3611 line-height: 1.2 ;
3612 margin-top: 1ex ;
3613 border-top: 1px solid silver ;
3614 padding: 2ex 1em 2ex 1em ;
3615 clear:both ;
3616 text-align:left ;
3617 }
3618
3619
3620 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3621 a.linkhome { font-weight:bold ; font-size: 1em ;}
3622
3623
3624 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3625
3626 img.lateximage{
3627 padding: 0pt ;
3628 margin: 0pt ;
3629 box-shadow: none ;
3630 border: none ;
3631 background: none ;
3632 max-width: 100% ;
3633 border-radius: 0ex ;
```

```
3634 border: none ;
3635 }
3636
3637
3638 div.sidetoccontainer {
3639 font-family: "DejaVu Serif", "Bitstream Vera Serif",
3640 "Lucida Bright", Georgia, serif;
3641 float: left ;
3642 width: 19%; /* room for border-right next to 80% main */
3643 margin: 0pt 0em 3ex 0pt ;
3644 border-right: 1px solid silver;
3645 border-bottom: 1px solid silver;
3646 background: #FAF7F4 ;
3647 font-size:.9em ;
3648 border-radius: 0px 0px 20px 0px ;
3649 }
3650
3651 div.sidetoccontents {
3652 overflow-y: auto ;
3653 width: 100% ;
3654 text-align: left ;
3655 }
3656
3657
3658 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3659 text-indent: 0 ; }
3660
3661 nav.sidetoc p a {color:black ; font-size: .7em ;}
3662
3663 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3664 border-bottom: 1px solid silver ; }
3665
3666 nav.sidetoc a:hover {text-decoration: underline ; }
3667
3668
3669
3670 section.textbody { margin: 0ex 1em 0ex 1em ;}
3671
3672
3673 div.multicolsheading { -webkit-column-span: all;
3674 -moz-column-span: all; column-span: all; }
3675 div.multicols {
3676 -webkit-columns: 3 auto ;
3677 -moz-columns: 3 auto ;
3678 columns: 3 auto ;
3679 }
3680 div.multicols p {margin-top: 0ex}
3681
3682
3683 /* Used for xfrac and nicefrac: */
3684 span.numerator {
3685 font-size: 60% ;
3686 vertical-align: .4em ;
3687 }
3688
```

```
3689 span.denominator {
3690 font-size: 60%
3691 }
3692
3693
3694 /* Used for algorithm2e: */
3695 div.alg2evline{
3696 margin-left: 1em ;
3697 padding-left: 1em ;
3698 border-left: 1px solid black ;
3699 border-radius: 0px 0px 0px 1ex ;
3700 }
3701
3702 div.alg2evsline{
3703 margin-left: 1em ;
3704 padding-left: 1em ;
3705 border-left: 1px solid black ;
3706 }
3707
3708 div.alg2enoline{
3709 margin-left: 1em ;
3710 padding-left: 1em ;
3711 }
3712
3713 span.alg2elinenumber{
3714 margin-right: .5em ;
3715 font-size: 60% ;
3716 color: red ;
3717 }
3718
3719
3720 /* Used for algorithmicx: */
3721 span.floatright { float: right ; }
3722
3723
3724 /* keyfloat and tocdata: */
3725 .floatnotes {
3726 margin: 0ex 5% 0ex 5% ;
3727 padding: 0ex 1em 0ex 1em ;
3728 font-size:.80em ;
3729 text-align: left ;
3730 }
3731
3732 .authorartist{
3733 display:block ;
3734 font-size:.70em ;
3735 font-style: italic;
3736 }
3737
3738 nav .authorartist{ display:inline; }
3739
3740
3741
3742 /* Native LaTeX theorems: */
3743
```

```
3744 .theoremcontents {
3745 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3746 }
3747
3748 .theoremlabel {
3749 font-style: normal; font-weight: bold ; margin-right: .5em ;
3750 }
3751
3752
3753
3754 /* theorem, amsthm, and ntheorem packages */
3755
3756 span.theoremheader,
3757 span.theoremheaderplain,
3758 span.theoremheaderdefinition,
3759 span.theoremheaderbreak,
3760 span.theoremheadermarginbreak,
3761 span.theoremheaderchangebreak,
3762 span.theoremheaderchange,
3763 span.theoremheadermargin
3764 {
3765 font-style:normal ; font-weight: bold ; margin-right: 1em ;
3766 }
3767
3768 span.amsthmnameplain,
3769 span.amsthmnamedefinition,
3770 span.amsthmnumberplain,
3771 span.amsthmnumberdefinition
3772 {
3773 font-style:normal ; font-weight: bold ;
3774 }
3775
3776
3777 span.amsthmnameremark,
3778 span.amsthmnumberremark
3779 {font-style:italic ; font-weight: normal ; }
3780
3781
3782 span.amsthmnoteplain,
3783 span.amsthmnotedefinition
3784 {font-style:normal ;}
3785
3786
3787 span.theoremheaderremark,
3788 span.theoremheaderproof,
3789 span.amsthmproofname
3790 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3791
3792 span.theoremheadersc
3793 {
3794 font-style:normal ;
3795 font-variant: small-caps ;
3796 font-weight: normal ;
3797 margin-right: 1em ;
3798 }
```

```
3799
3800 .theoremendmark {float:right}
3801
3802 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3803 div.theorembodybreak, div.theorembodynonumberbreak,
3804 div.theorembodymarginbreak,
3805 div.theorembodychangebreak,
3806 div.theorembodychange,
3807 div.theorembodymargin
3808 {
3809 font-style:italic;
3810 margin-top: 3ex ; margin-bottom: 3ex ;
3811 }
3812
3813 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3814 div.theorembodyplainupright, nonumberplainuprightsc,
3815 div.amsthmbodydefinition, div.amsthmbodyremark,
3816 div.amsthmproof
3817 {
3818 font-style: normal ;
3819 margin-top: 3ex ; margin-bottom: 3ex ;
3820 }
3821
3822 span.amsthmnoteremark {}
3823
3824
3825 /* thmbox */
3826
3827 .thmbox {
3828 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3829 border: 1px solid gray ;
3830 padding: 1ex ;
3831 }
3832
3833 .thmboxtitle {
3834 font-style: normal; font-weight: bold ; margin-right: .5em ;
3835 border-bottom: 1px solid gray ;
3836 }
3837
3838 span.thmboxproofname, span.thmboxexamplename {
3839 font-weight: bold ;
3840 }
3841
3842 div.thmboxproof, div.thmboxexample {
3843 font-size: 0.85em ;
3844 margin: 2ex ;
3845 }
3846
3847 div.thmboxleftbar {
3848 border-left: 2px solid black ;
3849 padding-left: 1em ;
3850 }
3851
3852
3853
```

```
3854 /* For the backnaur package: */
3855 div.backnaur {
3856 display: block ;
3857 margin: 2ex 2em 2ex 2em ;
3858 }
3859
3860 div.backnaur p {
3861 margin: .25ex 0ex .25ex 0ex ;
3862 }
3863
3864 div.backnaurprod {
3865 display: inline-block ;
3866 min-width: 8em ;
3867 text-align:right ;
3868 }
3869
3870 div.backnaurdesc {
3871 display: inline-block ;
3872 }
3873
3874
3875 /* For the notes package: */
3876 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3877 clear: both ;
3878 margin: 2ex 2em 2ex 2em ;
3879 border: 1px solid silver ;
3880 }
3881
3882 div.notesicon {
3883 float:left ;
3884 display: inline-block ;
3885 background: gold ;
3886 padding: 0ex 1em 0ex 1em ;
3887 margin-right: 1em ;
3888 font-weight: bold ;
3889 }
3890
3891 div.notescontents { font-style: italic }
3892
3893
3894 /* nolbreaks package: */
3895 span.nolbreaks { white-space: nowrap ; }
3896
3897
3898 /*
3899 For CSS LaTeX and related logos:
3900 Based on spacing demonstrated by the metafont package.
3901
3902 The subscripts are shrunk instead of lowered below the baseline,
3903 to avoid browser rendering errors with the line height in lists, etc.
3904 */
3905
3906 .latexlogofont {
3907 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3908 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
```

```
3909 font-variant: normal ;
3910 }
3911
3912 .latexlogo {
3913 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3914 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3915 }
3916
3917 .latexlogosup {
3918 text-transform: uppercase;
3919 letter-spacing: .03em ;
3920 font-size: 0.7em;
3921 vertical-align: 0.25em;
3922 margin-left: -0.4em;
3923 margin-right: -0.15em;
3924 }
3925
3926 .latexlogosub {
3927 text-transform: uppercase;
3928 /* vertical-align: -0.27ex; */
3929 margin-left: -0.08em;
3930 margin-right: -0.07em;
3931 /* font-size: 1em; */
3932 font-size: .7em ;
3933 }
3934
3935 .latexlogotwoe {
3936 text-transform: none ;
3937 font-variant-numeric: oldstyle-nums ;
3938 }
3939
3940 .latexlogotwoesub {
3941 font-style:italic ;
3942 /* vertical-align: -0.27ex; */
3943 margin-left: -0.11em;
3944 margin-right: -0.1em;
3945 /* font-size: 1em; */
3946 font-size: .7em ;
3947 }
3948
3949 .xelatexlogo {
3950 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3951 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3952 letter-spacing: .03em ;
3953 }
3954
3955 .xelatexlogosub {
3956 /* vertical-align: -0.27ex; */
3957 margin-left: -0.0667em;
3958 margin-right: -.05em;
3959 /* font-size: 1em; */
3960 font-size: .7em ;
3961 letter-spacing: .03em ;
3962 }
3963
```

```
3964 .amslogo {
3965 font-family: "TeXGyreChorus", "URW Chancery L",
3966 "Apple Chancery", "ITC Zapf Chancery", "Monotype Corsiva",
3967 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3968 "Hoefler Text", "Times", "Times New Roman", serif;
3969 font-style: italic;
3970 }
3971
3972 .lyxlogo {
3973 font-family: "URW Classico", Optima, "Linux Biolinum O",
3974 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3975 Verdana, sans-serif;
3976 }
3977
3978
3979 /* Only display top and bottom navigation if a small screen: */
3980 /* Hide the sidetoc if a small screen: */
3981 nav.topnavigation { display:none; }
3982 nav.botnavigation { display:none; }
3983
3984 /* Only display the sidetoc's webpage title if a small screen */
3985 span.sidetocthetitle { display: none }
3986
3987 @media screen and (max-width: 100em) {
3988 div.multicols {
3989 -webkit-columns: 2 auto;
3990 -moz-columns: 2 auto;
3991 columns: 2 auto;
3992 }
3993 }
3994
3995 @media screen and (max-width: 50em) {
3996 div.sidetoccontainer {
3997 float: none;
3998 width: 100%;
3999 padding: 0;
4000 border-radius: 0;
4001 border-bottom: 1px solid black;
4002 border-top: 1px solid black;
4003 box-shadow: none;
4004 }
4005 span.sidetocthetitle { display: inline }
4006 nav.topnavigation { display:block }
4007 nav.botnavigation { display:block }
4008 main.bodycontainer { width: 100% }
4009 .marginpar {
4010 max-width: 100%;
4011 float: none;
4012 display: block;
4013 margin: 1ex 1em 1ex 1em;
4014 }
4015 div.multicols {
4016 -webkit-columns: 1 auto;
4017 -moz-columns: 1 auto;
4018 columns: 1 auto;
```

```

4019 }
4020 }
4021
4022 @media print {
4023 body {
4024 font-family: "Linux Libertine O",
4025 "DejaVu Serif", "Bitstream Vera Serif",
4026 "Liberation Serif", "Nimbus Roman No 9 L",
4027 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4028 }
4029 div.sidetoccontainer { display:none; }
4030 nav.topnavigation { display: none; }
4031 nav.botnavigation { display: none; }
4032 main.bodycontainer { width: 100% }
4033 }
4034
4035 @media handheld {
4036 div.sidetoccontainer { display:none; }
4037 nav.topnavigation { display:block }
4038 nav.botnavigation { display:block }
4039 main.bodycontainer { width: 100% }
4040 }
4041
4042 @media projection {
4043 div.sidetoccontainer { display:none; }
4044 nav.topnavigation { display:block }
4045 nav.botnavigation { display:block }
4046 main.bodycontainer { width: 100% }
4047 }
4048 \end{filecontents*}
4049 % \end{Verbatim}% for syntax highlighting
4050 \end{LWRwriteconf}

```

## 40.5 lwarp\_sagebrush.css

File lwarp\_sagebrush.css An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4051 \begin{LWRwriteconf}
4052 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4053 @import url("lwarp.css") ;
4054
4055
4056 A:link {color:#105030 ; text-decoration: none ; }
4057 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4058 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4059 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4060
4061
4062
4063 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4064 {

```

```
4065 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4066 "Linux Libertine O", "Liberation Serif",
4067 "Nimbus Roman No 9 L", "FreeSerif",
4068 "Hoefler Text", Times, "Times New Roman", serif;
4069 font-variant: small-caps ;
4070 font-weight: normal ;
4071 color: #304070 ;
4072 text-shadow: 2px 2px 3px #808080;
4073 }
4074
4075 h1 { /* title of the entire website, used on each page */
4076 font-variant: small-caps ;
4077 color: #304070 ;
4078 text-shadow: 2px 2px 3px #808080;
4079 background-color: #F7F7F0 ;
4080 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4081 }
4082
4083 h1 {
4084 border-bottom: 1px solid #304070;
4085 /* border-top: 2px solid #304070; */
4086 }
4087
4088 h2 {
4089 border-bottom: 1px solid #304070;
4090 /* border-top: 2px solid #304070; */
4091 background-color: #F7F7F0 ;
4092 background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4093 }
4094
4095
4096
4097 div.abstract {
4098 background: #f5f5eb ;
4099 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4100
4101 border: 1px solid silver;
4102 border-radius: 1em ;
4103 }
4104
4105 div.abstract dl {line-height:1.5;}
4106 div.abstract dt {color:#304070;}
4107
4108 div.abstracttitle{
4109 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4110 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4111 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4112 font-weight:bold;
4113 font-variant: small-caps ;
4114 font-size:1.5em;
4115 border-bottom: 1px solid silver ;
4116 color: #304070 ;
4117 text-align: center ;
4118 text-shadow: 1px 1px 2px #808080;
4119 }
```

```
4120
4121 span.abstractrunintitle{
4122 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4123 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4124 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4125 font-weight:bold;
4126 }
4127
4128
4129 div.epigraph, div.dictum {
4130 background: #f5f5eb ;
4131 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4132
4133 border: 1px solid silver ;
4134 border-radius: 1ex ;
4135 box-shadow: 3px 3px 3px #808080 ;
4136 }
4137
4138
4139 .example {
4140 background-color: #f5f5eb ;
4141 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4142
4143 }
4144
4145 div.exampletitle{
4146 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4147 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4148 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4149 font-weight:bold;
4150 font-variant: small-caps ;
4151 border-bottom: 1px solid silver ;
4152 color: #304070 ;
4153 text-align: center ;
4154 text-shadow: 1px 1px 2px #808080;
4155 }
4156
4157
4158 .sidebar {
4159 background-color: #f5f5eb ;
4160 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4161
4162 }
4163
4164 div.sidebartitle{
4165 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4166 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4167 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4168 font-weight:bold;
4169 font-variant: small-caps ;
4170 border-bottom: 1px solid silver ;
4171 color: #304070 ;
4172 text-align: center ;
4173 text-shadow: 1px 1px 2px #808080;
4174 }
```

```
4175
4176
4177 .fancyvrblabel {
4178 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4179 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4180 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4181 font-weight:bold;
4182 font-variant: small-caps ;
4183 font-size: 1.5em ;
4184 color: #304070 ;
4185 text-align: center ;
4186 text-shadow: 1px 1px 2px #808080;
4187 }
4188
4189 div.minipage {
4190 background-color: #eeeeee7 ;
4191 border: 1px solid silver ;
4192 border-radius: 1ex ;
4193 }
4194
4195 table div.minipage { background: none ; border: none ; }
4196
4197 div.framebox div.minipage {border:none ; background:none}
4198
4199 section.textbody > div.minipage {
4200 box-shadow: 3px 3px 3px #808080 ;
4201 }
4202
4203 div.fboxBlock div.minipage { box-shadow: none ; }
4204
4205 .framed .minipage , .framedleftbar .minipage {
4206 border: none ;
4207 background: none ;
4208 padding: 0ex ;
4209 margin: 0ex ;
4210 }
4211
4212 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4213
4214 div.marginblock div.minipage ,
4215 div.marginparblock div.minipage
4216 { border: none; }
4217
4218 figure , div.marginblock {
4219 background-color: #eeeeee7 ;
4220 border: 1px solid silver ;
4221 border-radius: 1ex ;
4222 box-shadow: 3px 3px 3px #808080 ;
4223 }
4224
4225 figure figure {
4226 border: 1px solid silver ;
4227 margin: 0em ;
4228 box-shadow: none ;
4229 }
```

```
4230
4231 /*
4232 div.figurecaption {
4233 border-top: 1px solid silver ;
4234 border-bottom: 1px solid silver ;
4235 background-color: #e8e8e8 ;
4236 }
4237 */
4238
4239
4240 div.table {
4241 box-shadow: 3px 3px 3px #808080 ;
4242 }
4243
4244 /*
4245 .tnotes {
4246 background: #e8e8e8;
4247 border: 1px solid silver;
4248 }
4249 */
4250
4251
4252 nav.topnavigation{
4253 background-color: #b0b8b0 ;
4254 background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4255 }
4256
4257 nav.botnavigation{
4258 background-color: #b0b8b0 ;
4259 background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4260 }
4261
4262
4263
4264 header{
4265 background-color: #F7F7F0 ;
4266 background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4267 }
4268
4269 footer{
4270 background-color: #F7F7F0 ;
4271 background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4272 }
4273
4274
4275
4276 div.sidetoccontainer {
4277 background-color: #F7F7F0 ;
4278 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4279 box-shadow: 3px 3px 3px #808080 ;
4280 }
4281
4282 div.sidetotitle {color: #304070 ; }
4283
4284 nav.sidetoc a:hover {
```

```

4285 color:#006000 ;
4286 text-decoration: none ;
4287 text-shadow:0px 0px 2px #a0a0a0;
4288 }
4289
4290
4291 @media screen and (max-width: 45em) {
4292 div.sidetoccontainer { border-radius: 0 ; }
4293 }
4294
4295
4296 \end{filecontents*}
4297 % \end{Verbatim}% for syntax highlighting
4298 \end{LWRwriteconf}

```

## 40.6 lwarp\_formal.css

File lwarp\_formal.css An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4299 \begin{LWRwriteconf}
4300 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4301 @import url("lwarp.css") ;
4302
4303
4304
4305 A:link {color:#802020 ; text-decoration:none; }
4306 A:visited {color:#802020 ; text-shadow:none ;}
4307 A:hover {color:#400000 ; text-shadow:none ;}
4308 A:active {color:#C00000 ; text-shadow:none ;}
4309
4310
4311 body {
4312 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4313 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4314 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4315 "Times New Roman", serif;
4316 background: #fffcf5;
4317 }
4318
4319 span.textrm {
4320 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4321 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4322 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4323 "Times New Roman", serif;
4324 }
4325
4326 span.textsf {
4327 font-family: "DejaVu Sans", "Bitstream Vera Sans",
4328 Geneva, Verdana, sans-serif ;
4329 }
4330

```

```
4331
4332
4333 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span subparagraph
4334 {
4335 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4336 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4337 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4338 "Times New Roman", serif;
4339 color: #800000 ;
4340 text-shadow: none ;
4341 }
4342
4343 h1, h2 {
4344 background-color: #ffffcf5 ;
4345 background-image: none ;
4346 border-bottom: 1px solid #808080;
4347 /* border-top: 2px solid #808080; */
4348 }
4349
4350 div.abstracttitle {
4351 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4352 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4353 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4354 "Times New Roman", serif;
4355 color: black ;
4356 text-shadow: none ;
4357 }
4358
4359 span.abstractrunintitle {
4360 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4361 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4362 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4363 "Times New Roman", serif;
4364 color: black ;
4365 text-shadow: none ;
4366 }
4367
4368 div.abstract { font-size: 100% }
4369
4370 .sidebar {
4371 background: #ffffcf5;
4372 background-image: none ;
4373 margin: 2em 5% 2em 5%;
4374 padding: 0.5em 1em;
4375 border: none ;
4376 border-top : 1px solid silver;
4377 border-bottom : 1px solid silver;
4378 font-size: 90% ;
4379 }
4380
4381 div.sidebartitle{
4382 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4383 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4384 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4385 "Times New Roman", serif;
```

```
4386 color: #800000 ;
4387 text-shadow: none ;
4388 border: none ;
4389 }
4390
4391 .example {
4392 background: #ffffcf5;
4393 background-image: none ;
4394 margin: 2em 5% 2em 5%;
4395 padding: 0.5em 1em;
4396 border: none ;
4397 border-top : 1px solid silver;
4398 border-bottom : 1px solid silver;
4399 }
4400
4401 div.exampletitle{
4402 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4403 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4404 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4405 "Times New Roman", serif;
4406 color: #800000 ;
4407 text-shadow: none ;
4408 border: none ;
4409 }
4410
4411 div.fancyvrblabel{
4412 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4413 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4414 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4415 "Times New Roman", serif;
4416 color: #800000 ;
4417 text-shadow: none ;
4418 border: none ;
4419 }
4420
4421
4422
4423 figure {
4424 margin: 5ex 5% 5ex 5% ;
4425 padding: 1ex 1em 1ex 1em ;
4426 background-color: #ffffcf5 ;
4427 overflow-x: auto ;
4428 border: none ;
4429 /* border-top: 1px solid silver; */
4430 /* border-bottom: 1px solid silver; */
4431 }
4432
4433
4434 div.figurecaption , .lstlisting {
4435 border: none ;
4436 /* border-top: 1px solid silver ; */
4437 /* border-bottom: 1px solid silver ; */
4438 background-color: #ffffcf5 ;
4439 }
4440
```

```
4441 .tnotes {
4442 background: #ffffcf5 ;
4443 border-top: 1px solid silver ;
4444 border-bottom: 1px solid silver ;
4445 }
4446
4447 .theorem {
4448 background: none ;
4449 }
4450
4451 .minipage {
4452 background-color: #ffffcf5 ;
4453 border: none ;
4454 }
4455
4456 div.floatrow figure { border: none ; }
4457
4458 figure figure { border: none ; }
4459
4460
4461 nav.toc, nav.lof, nav.lot, nav.lof {
4462 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4463 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4464 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4465 "Times New Roman", serif;
4466 }
4467
4468 div.sidetoccontainer {
4469 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4470 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4471 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4472 "Times New Roman", serif;
4473 background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4474 }
4475
4476 div.sidetoctitle{
4477 color: #800000 ;
4478 }
4479
4480 header{
4481 background-color: #e0e0e0 ;
4482 background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
4483 text-align:center ;
4484 }
4485
4486 footer{
4487 background-color: #e0e0e0 ;
4488 background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
4489 padding: 2ex 1em 2ex 1em ;
4490 text-align:left ;
4491 }
4492
4493 nav.botnavigation {
4494 background: #dedcd5 ;
4495 border-top: 1px solid black ;
```

---

```

4496 }
4497 \end{filecontents*}
4498 % \end{Verbatim}%
4499 \end{LWRwriteconf}
```

## 40.7 sample\_project.css

File sample\_project.css The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4500 \begin{LWRwriteconf}
4501 \begin{filecontents*}[overwrite]{sample_project.css}
4502 /* (--- Start of project.css ---) */
4503 /* (--- A sample project-specific CSS file for lwarp ---) */
4504
4505 /* Uncomment one of the following: */
4506 @import url("lwarp.css");
4507 /* @import url("lwarp_formal.css"); */
4508 /* @import url("lwarp_sagebrush.css"); */
4509
4510 /* Project-specific CSS setting follow here. */
4511 /* . . . */
4512
4513 /* (--- End of project.css ---) */
4514 \end{filecontents*}
4515 % \end{Verbatim}%
4516 \end{LWRwriteconf}
```

## 40.8 lwarp.ist

File lwarp.ist Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's \specialindex.

**Config file:**

```

4517 \begin{LWRwriteconf}
4518 \begin{filecontents*}[overwrite]{lwarp.ist}
4519 preamble
4520 "\\begin{theindex}
4521 \\providecommand*\\lettergroupDefault[1]{}
4522 \\providecommand*\\lettergroup[1]{%
4523 \\par\\textbf{\#1}\\par
4524 \\nopagebreak
4525 }
4526 "
4527 headings_flag 1
4528 heading_prefix "
4529 \\lettergroup{"
```

---

```

4530 heading_suffix }}"
4531 delim_0 ", \\hyperindexref{"
4532 delim_1 ", \\hyperindexref{"
4533 delim_2 ", \\hyperindexref{"
4534 delim_n "}, \\hyperindexref{"
4535 delim_r "} -- \\hyperindexref{"
4536 delim_t "}"
4537 page_compositor "."
4538 \end{filecontents*}
4539 % \end{Verbatim}% for syntax highlighting
4540 \end{LWRwriteconf}

```

## 40.9 lwarp.xdy

File `lwarp.xdy` Used to modify the index for `lwarp`.

This must be present when compiling the project, but does not need to be present when distributing the resulting `HTML` files.

See:

[https://tex.stackexchange.com/questions/80300/  
how-can-i-convince-hyperref-and-xindy-to-play-together-nicely](https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely)

**Config file:**

```

4541 \begin{LWRwriteconf}
4542 \begin{filecontents*}[overwrite]{lwarp.xdy}
4543 (require "tex/inputenc/latin.xdy")
4544 (merge-rule "\\PS *" "Postscript")
4545 (require "texindy.xdy")
4546 (require "page-ranges.xdy")
4547 (require "book-order.xdy")
4548 (define-location-class "arabic-page-numbers"
4549 ("arabic-numbers") :min-range-length 1)
4550 (require "makeindex.xdy")
4551 (define-attributes (("hyperindexref")))
4552 (markup-locref :open "\\hyperindexref{" :close "}")
4553 (markup-locref :open "\\hyperindexref{" :close "}" :attr "hyperpage")
4554 (markup-locref :open "\\textbf{\\hyperindexref{" :close "}}" :attr "textbf")
4555 (markup-locref :open "\\textit{\\hyperindexref{" :close "}}" :attr "textit")
4556 (define-location-class-order ("roman-page-numbers"
4557 "arabic-page-numbers"
4558 "alpha-page-numbers"
4559 "Roman-page-numbers"
4560 "Alpha-page-numbers"
4561 "see"
4562 "seealso"))
4563 \end{filecontents*}
4564 % \end{Verbatim}% for syntax highlighting
4565 \end{LWRwriteconf}

```

## 40.10 lwarp\_one\_limage.cmd

File `lwarp_one_limage.cmd` Used by `lwarp` to help make `lateximages` when using `WINDOWS`.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

*MiKTeX* does not allow file lwarp\_one\_limage.cmd to be created directly by *lwarpmk*, so lwarp\_one\_limage.txt is created instead, then copied to lwarp\_one\_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

**Config file:**

```

4566 \begin{LWRwriteconf}
4567 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4568 \immediate\write\LWR@quickfile{%
4569 pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4570 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4571 }
4572 \immediate\write\LWR@quickfile{%
4573 pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4574 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4575 }
4576 \immediate\write\LWR@quickfile{%
4577 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4578 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4579 }
4580 \immediate\write\LWR@quickfile{%
4581 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4582 }
4583 \immediate\write\LWR@quickfile{%
4584 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4585 }
4586 \immediate\write\LWR@quickfile{exit}
4587 \immediate\closeout\LWR@quickfile
4588 \end{LWRwriteconf}
```

## 40.11 lwarp\_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

File lwarp\_mathjax.txt The default MATHJAX script used by lwarp when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow L<sup>A</sup>T<sub>E</sub>X to control the equation tags and provide for starred macros.

\MathJaxFilename determines which script file is copied into the HTML pages, and defaults to lwarp\_mathjax.txt. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

**custom script** To generate a custom script, such as to use a local repository, copy lwarp\_mathjax.txt to a new file, make changes while keeping lwarp's adjustments for equation numbering and starred macros, and use \MathJaxFilename to select the new filename.

**Config file:**

```

4589 \begin{LWRwriteconf}
4590 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4591 <script>
```

```
4592 // Lwarp MathJax emulation code
4593 //
4594 // Based on code by Davide P. Cervone.
4595 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4596 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4597 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4598 //
4599 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4600 //
4601 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4602 // subequations? is 0 usually, 1 if inside subequations.
4603 // section is a string printed as-is, or empty.
4604 // number is auto-incremented by MathJax between equations.
4605 //
4606 MathJax = {
4607 subequations: "0",
4608 section: "",
4609 loader: {
4610 load: ['[tex]/tagformat', '[tex]/textmacros'],
4611 },
4612 startup: {
4613 ready() {
4614 // These would be replaced by import commands if you wanted to make
4615 // a proper extension.
4616 const Configuration = MathJax._.input.tex.Configuration.Configuration;
4617 const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4618 const Macro = MathJax._.input.tex.Symbol.Macro;
4619 const TexError = MathJax._.input.tex.TexError.default;
4620 const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4621 const expandable = MathJax._.util.Options.expandable;
4622
4623 // Insert the replacement string into the TeX string, and check
4624 // that there haven't been too many macro substitutions (prevents
4625 // infinite loops).
4626 const useArgument = (parser, text) => {
4627 parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4628 parser.i = 0;
4629 if (++parser.macroCount > parser.configuration.options.maxMacros) {
4630 throw new TexError('MaxMacroSub1',
4631 'MathJax maximum macro substitution count exceeded; ' +
4632 'is there a recursive macro call?');
4633 }
4634 }
4635
4636 // Create the command map for:
4637 // \ifstar, \ifnextchar, \ifblank, \ifstreq, \seteqnumber
4638 new CommandMap('Lwarp-macros', {
4639 ifstar: 'IfstarFunction',
4640 ifnextchar: 'IfnextcharFunction',
4641 ifblank: 'IfblankFunction',
4642 ifstreq: 'IfstreqFunction',
4643 seteqnumber: 'SeteqnumberFunction'
4644 }, {
4645 // This function implements an ifstar macro.
4646 IfstarFunction(parser, name) {
```

```
4647 const resultstar = parser.GetArgument(name);
4648 const resultnostar = parser.GetArgument(name);
4649 const star = parser.GetStar(); // true if there is a *
4650 useArgument(parser, star ? resultstar : resultnostar);
4651 },
4652
4653 // This function implements an ifnextchar macro.
4654 IfnextcharFunction(parser, name) {
4655 let whichchar = parser.GetArgument(name);
4656 if (whichchar.match(/^(:?0x[0-9A-F]+|[0-9]+)$/i)) {
4657 // $ syntax highlighting
4658 whichchar = String.fromCodePoint(parseInt(whichchar));
4659 }
4660 const resultnextchar = parser.GetArgument(name);
4661 const resultnotnextchar = parser.GetArgument(name);
4662 const gotchar = (parser.GetNext() === whichchar);
4663 useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4664 },
4665
4666 // This function implements an ifblank macro.
4667 IfblankFunction(parser, name) {
4668 const blankarg = parser.GetArgument(name);
4669 const resultblank = parser.GetArgument(name);
4670 const resultnotblank = parser.GetArgument(name);
4671 const isblank = (blankarg.trim() == "");
4672 useArgument(parser, isblank ? resultblank : resultnotblank);
4673 },
4674
4675 // This function implements an ifstrequal macro.
4676 IfstrequalFunction(parser, name) {
4677 const strequalfirst = parser.GetArgument(name);
4678 const strequalssecond = parser.GetArgument(name);
4679 const resultequal = parser.GetArgument(name);
4680 const resultnotequal = parser.GetArgument(name);
4681 const isequal = (strequalfirst == strequalssecond);
4682 useArgument(parser, isequal ? resultequal : resultnotequal);
4683 },
4684
4685 // This function modifies the equation numbers.
4686 SeteqnumberFunction(parser, name) {
4687 // Get the macro parameters
4688 const star = parser.GetStar(); // true if there is a *
4689 const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4690 const newsubequations = parser.GetArgument(name); // the subequations argument
4691 const neweqsection = parser.GetArgument(name); // the eq section argument
4692 const neweqnumber = parser.GetArgument(name); // the eq number argument
4693 MathJax.config.subequations=newsubequations; // a string with boolean meaning
4694 MathJax.config.section=neweqsection; // a string with numeric meaning
4695 parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4696 }
4697
4698 });
4699
4700 // Create the Lwarp-macros package
4701 Configuration.create('Lwarp-macros', {
```

```
4702 handler: {macro: ['Lwarp-macros']}
4703);
4704
4705 MathJax.startup.defaultReady();
4706
4707 // For forward references:
4708 MathJax.startup.input[0].preFilters.add(({math}) => {
4709 if (math.inputData.recompile){
4710 MathJax.config.subequations = math.inputData.recompile.subequations;
4711 MathJax.config.section = math.inputData.recompile.section;
4712 }
4713 });
4714 MathJax.startup.input[0].postFilters.add(({math}) => {
4715 if (math.inputData.recompile){
4716 math.inputData.recompile.subequations = MathJax.config.subequations;
4717 math.inputData.recompile.section = MathJax.config.section;
4718 }
4719 });
4720
4721 // For \left, \right with unicode-math:
4722 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4723 const {Symbol} = MathJax._.input.tex.Symbol;
4724 const {MapHandler} = MathJax._.input.tex.MapHandler;
4725 const delimiter = MapHandler.getMap('delimiter');
4726 delimiter.add('\\lBrack', new Symbol('\\lBrack', '\u27E6'));
4727 delimiter.add('\\rBrack', new Symbol('\\rBrack', '\u27E7'));
4728 delimiter.add('\\lAngle', new Symbol('\\lAngle', '\u27EA'));
4729 delimiter.add('\\rAngle', new Symbol('\\rAngle', '\u27EB'));
4730 delimiter.add('\\lbrbrak', new Symbol('\\lbrbrak', '\u2772'));
4731 delimiter.add('\\rbrbrak', new Symbol('\\rbrbrak', '\u2773'));
4732 delimiter.add('\\lbag', new Symbol('\\lbag', '\u27C5'));
4733 delimiter.add('\\rbag', new Symbol('\\rbag', '\u27C6'));
4734 delimiter.add('\\llparenthesis', new Symbol('\\llparenthesis', '\u2987'));
4735 delimiter.add('\\rrparenthesis', new Symbol('\\rrparenthesis', '\u2988'));
4736 delimiter.add('\\llangle', new Symbol('\\llangle', '\u2989'));
4737 delimiter.add('\\rrangle', new Symbol('\\rrangle', '\u298A'));
4738 delimiter.add('\\Lbrbrak', new Symbol('\\Lbrbrak', '\u27EC'));
4739 delimiter.add('\\Rbrbrak', new Symbol('\\Rbrbrak', '\u27ED'));
4740 delimiter.add('\\lBrace', new Symbol('\\lBrace', '\u2983'));
4741 delimiter.add('\\rBrace', new Symbol('\\rBrace', '\u2984'));
4742 delimiter.add('\\lParen', new Symbol('\\lParen', '\u2985'));
4743 delimiter.add('\\rParen', new Symbol('\\rParen', '\u2986'));
4744 delimiter.add('\\lbrackubar', new Symbol('\\lbrackubar', '\u298B'));
4745 delimiter.add('\\rbrackubar', new Symbol('\\rbrackubar', '\u298C'));
4746 delimiter.add('\\lbrackultick', new Symbol('\\lbrackultick', '\u298D'));
4747 delimiter.add('\\rbracklrltick', new Symbol('\\rbracklrltick', '\u298E'));
4748 delimiter.add('\\lbracklltick', new Symbol('\\lbracklltick', '\u298F'));
4749 delimiter.add('\\rbrackurtick', new Symbol('\\rbrackurtick', '\u2990'));
4750 delimiter.add('\\langledot', new Symbol('\\langledot', '\u2991'));
4751 delimiter.add('\\rangledot', new Symbol('\\rangledot', '\u2992'));
4752 delimiter.add('\\lparenless', new Symbol('\\lparenless', '\u2993'));
4753 delimiter.add('\\rparengtr', new Symbol('\\rparengtr', '\u2994'));
4754 delimiter.add('\\Lparengtr', new Symbol('\\Lparengtr', '\u2995'));
4755 delimiter.add('\\Rparenless', new Symbol('\\Rparenless', '\u2996'));
4756 delimiter.add('\\lblkbrbrak', new Symbol('\\lblkbrbrak', '\u2997'));
```

```

4757 delimiter.add('\\rblkbrbrak', new Symbol('\\rblkbrbrak', '\u2998'));
4758 delimiter.add('\\lvzigzag', new Symbol('\\lvzigzag', '\u29D8'));
4759 delimiter.add('\\rvzigzag', new Symbol('\\rvzigzag', '\u29D9'));
4760 delimiter.add('\\Lvzigzag', new Symbol('\\Lvzigzag', '\u29DA'));
4761 delimiter.add('\\Rvzigzag', new Symbol('\\Rvzigzag', '\u29DB'));
4762 delimiter.add('\\lcurvyangle', new Symbol('\\lcurvyangle', '\u29FC'));
4763 delimiter.add('\\rcurvyangle', new Symbol('\\rcurvyangle', '\u29FD'));
4764 delimiter.add('\\Vvert', new Symbol('\\Vvert', '\u2980'));
4765 } // ready
4766 }, // startup
4767
4768 tex: {
4769 packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4770 tags: "ams",
4771 tagformat: {
4772 number: function (n) {
4773 if(MathJax.config.subequations==0)
4774 return(MathJax.config.section + n);
4775 else
4776 return(MathJax.config.section + String.fromCharCode(96+n));
4777 },
4778 },
4779 }
4780 }
4781 </script>
4782
4783 <script
4784 id="MathJax-script"
4785 src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-chtml.js"
4786 ></script>
4787 \end{filecontents*}
4788 % \end{Verbatim} for syntax highlighting
4789 \end{LWRwriteconf}

```

## 40.12 lwarpmk.lua — lwarpmk option

|                     |                      |                                                                                                                                                                                                                                                                                                                                               |
|---------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Opt                 | <code>lwarpmk</code> | Creates a local copy of <i>lwarpmk</i> .                                                                                                                                                                                                                                                                                                      |
| Prog                | <code>lwarpmk</code> | Command-line utility to process <i>lwarf</i> files and images.                                                                                                                                                                                                                                                                                |
| parallel processing |                      | <code>lateximages</code> and <code>svg</code> math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the <code>wait</code> command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with |

START /B /WAIT /BELOWNORMAL

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the `lwarpmk` option was given to `lwarf`.

```

4790 \begin{LWRcreateLwarpmk}

```

```
4791 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4792 #!/usr/bin/env texlua
4793
4794 -- Copyright 2016-2021 Brian Dunn
4795
4796
4797 printversion = "v0.902"
4798 requiredconfversion = "2" -- also at *lwarpmk.conf
4799
4800 function printhelp ()
4801 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4802 end
4803
4804
4805 function printusage ()
4806 --
4807 -- Print the usage of the lwarpmk command:
4808 --
4809 print ([[
4810
4811 lwarpmk print [-p project]: Compile the print version if necessary.
4812 lwarpmk print1 [-p project]: Forced single compile of the print version.
4813 lwarpmk printindex [-p project]: Process print indexes.
4814 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4815 lwarpmk html [-p project]: Compile the HTML version if necessary.
4816 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4817 lwarpmk htmlindex [-p project]: Process HTML indexes.
4818 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4819 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4820 lwarpmk limages [-p project]: Process the "lateximages" created by lwarf.sty.
4821 lwarpmk pdftohtml [-p project]:
4822 For use with latexmk or a Makefile:
4823 Converts project_html.pdf to project_html.html and individual HTML files.
4824 Finishes the HTML conversion even if there was a compile error.
4825 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4826 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4827 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4828 *.idx, *.ind, *.bbl, *.log, *_html_inc.*., .gl*,
4829 *_html.pdf, *_html.html, *_html.sidetoc
4830 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4831 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4832 lwarpmk -v: Print the version number.
4833 lwarpmk -h: Print this help message.
4834 lwarpmk --help: Print this help message.
4835
4836]])
4837 -- printconf ()
4838 end
4839
4840
4841 function splitfilename (pathandfilename)
4842 --
4843 -- Separates out the path and extension from a filename.
4844 -- Returns path, filename with extension, and extension.
4845 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
```

```
4846 --
4847 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4848 -- split_filename_in_to_path_filename_and_extension
4849 --
4850 if lfs.attributes(pathandfilename,"mode") == "directory" then
4851 local strPath = pathandfilename:gsub("[\\/]$","",) -- $ (syntax highlighting)
4852 return strPath.."\\",""
4853 end
4854 pathandfilename = pathandfilename.."."
4855 return pathandfilename:match("^(.-)([^\\/]-%.(^\\/.%.)-%.)?$")
4856 end
4857
4858
4859 function splitfile (destfile,sourcefile)
4860 --
4861 -- Split one large sourcefile into a number of files,
4862 -- starting with destfile.
4863 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4864 -- If lwarp is in use, sets usinglwarf.
4865 --
4866 usinglwarf = false ;
4867 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4868 local sfile = io.open(sourcefile)
4869 io.output(destfile)
4870 for line in sfile:lines() do
4871 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
4872 if ((i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4873 -- split the file
4874 io.output(newfilename) ;
4875 else
4876 if ((i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4877 -- verified the use of \usepackage{lwarp}
4878 usinglwarf = true ;
4879 else
4880 -- not a splitpoint
4881 io.write (line .. "\n") ;
4882 end end
4883 end -- do
4884 io.close(sfile)
4885 if (usinglwarf == false) then
4886 print ("lwarpmk: ===")
4887 print ("lwarpmk: \\usepackage{lwarp} was not detected.")
4888 print ("lwarpmk: The HTML output will not be correct.")
4889 print ("lwarpmk: Ensured that \\usepackage{lwarp} is enabled,")
4890 print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
4891 print ("lwarpmk: ===")
4892 end
4893 end -- function
4894
4895
4896 function cvalueerror (line, linenum , cvalue)
4897 --
4898 -- Incorrect value, so print an error and exit.
4899 --
4900 print ("lwarpmk: ===")
```

```
4901 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4902 print (
4903 "lwarpmk: incorrect variable value \\" .. cvalue ..
4904 "\\" in lwarpmk.conf.\n"
4905) ;
4906 print ("lwarpmk: ===")
4907 -- printconf () ;
4908 os.exit(1) ;
4909 end
4910
4911
4912 function printhowtorecompile ()
4913 -- Tells the user how to recompile to regenerate the configuration files.
4914 print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf")
4915 print ("lwarpmk: must be updated. To do so, recompile")
4916 print ("lwarpmk: " , sourcename.."tex")
4917 if (printlatexcmd == "") then
4918 print ("lwarpmk: using xe/lua/pdflatex,")
4919 else
4920 print ("lwarpmk: using the command:")
4921 print ("lwarpmk: " , printlatexcmd)
4922 end
4923 print ("lwarpmk: then use lwarpmk again.")
4924 end -- printhowtorecompile
4925
4926
4927 function ignoreconf ()
4928 -- Global argument index
4929 argindex = 2
4930 end
4931
4932 function loadconf ()
4933 --
4934 -- Load settings from the project's "lwarpmk.conf" file:
4935 --
4936 -- Default configuration filename:
4937 local conffile = "lwarpmk.conf"
4938 local confroot = "lwarpmk"
4939 -- Global argument index
4940 argindex = 2
4941 -- Optional configuration filename:
4942 if (arg[argindex] == "-p") then
4943 argindex = argindex + 1
4944 confroot = arg[argindex]
4945 conffile = confroot.."lwarpmkconf"
4946 argindex = argindex + 1
4947 end
4948 -- Additional defaults:
4949 confversion = "0"
4950 opsystem = "Unix"
4951 imagesdirectory = "lateximages"
4952 imagesname = "image-"
4953 latexmk = "false"
4954 printlatexcmd = ""
4955 HTMLlatexcmd = ""
```

```
4956 printindexcmd = ""
4957 HTMLindexcmd = ""
4958 latexmkindexcmd = ""
4959 -- to be removed:
4960 -- indexprog = "makeindex"
4961 -- makeindexstyle = "lwarp.ist"
4962 -- xindylanguage = "english"
4963 -- xindycodepage = "utf8"
4964 -- xindystyle = "lwarp.xdy"
4965 -- pdftotextenc = "UTF-8"
4966 glossarycmd = "makeglossaries"
4967 -- Verify the file exists:
4968 if (lfs.attributes(conffile,"mode")==nil) then
4969 -- file not exists
4970 print ("lwarpmk: ===")
4971 print ("lwarpmk: File \"\" .. conffile ..\" does not exist.")
4972 print ("lwarpmk: Move to the project's source directory,")
4973 print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4974 print ("lwarpmk: then try using lwarpmk again.")
4975 if (arg[argindex] ~= nil) then
4976 print (
4977 "lwarpmk: (\"\" .. confroot ..
4978 "\" does not appear to be a project name.)"
4979)
4980 end
4981 print ("lwarpmk: ===")
4982 printhelp();
4983 os.exit(1) -- exit the entire lwarpmk script
4984 else -- file exists
4985 -- Read the file:
4986 print ("lwarpmk: Reading \" .. conffile ..\"")
4987 local cfile = io.open(conffile)
4988 -- Scan each line, parsing each line as: name = [[string]]
4989 local linenum = 0
4990 for line in cfile:lines() do -- scan lines
4991 linenum = linenum + 1
4992 i,j,cvarname,cvalue = string.find (line, "(%w-[_]*%)%s*=%s*%[%([%^]]*)%[%]");
4993 -- Error if incorrect enclosing characters:
4994 if (i == nil) then
4995 print ("lwarpmk: ===")
4996 print ("lwarpmk: " .. linenum .. " : " .. line);
4997 print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n");
4998 print ("lwarpmk: ===")
4999 -- printconf();
5000 os.exit(1);
5001 end -- nil
5002 if (cvarname == "confversion") then
5003 confversion = cvalue
5004 elseif (cvarname == "opsystem") then
5005 -- Verify choice of opsystem:
5006 if ((cvalue == "Unix") or (cvalue == "Windows")) then
5007 opsystem = cvalue
5008 else
5009 cvalueerror (line, linenum, cvalue)
5010 end
```

```
5011 elseif (cvarname == "sourcename") then sourcename = cvalue
5012 elseif (cvarname == "homehtmlfilename") then homehtmlfilename = cvalue
5013 elseif (cvarname == "htmlfilename") then htmlfilename = cvalue
5014 elseif (cvarname == "imagesdirectory") then imagesdirectory = cvalue
5015 elseif (cvarname == "imagesname") then imagesname = cvalue
5016 elseif (cvarname == "latexmk") then latexmk = cvalue
5017 elseif (cvarname == "printlatexcmd") then printlatexcmd = cvalue
5018 elseif (cvarname == "HTMLLatexcmd") then HTMLLatexcmd = cvalue
5019 elseif (cvarname == "printindexcmd") then printindexcmd = cvalue
5020 elseif (cvarname == "HTMLIndexcmd") then HTMLIndexcmd = cvalue
5021 elseif (cvarname == "latexmkindexcmd") then latexmkindexcmd = cvalue
5022 elseif (cvarname == "glossarycmd") then glossarycmd = cvalue
5023 elseif (cvarname == "pdftotextenc") then pdftotextenc = cvalue
5024 else
5025 print ("lwarpmk: ===")
5026 print ("lwarpmk: .. linenum .. : .. line) ;
5027 print (
5028 "lwarpmk: Incorrect variable name \".. cvarname .. \" in .. "
5029 conffile .. ".\n"
5030) ;
5031 print ("lwarpmk: ===")
5032 -- printconf () ;
5033 os.exit(1) ;
5034 end -- cvarname
5035 end -- do scan lines
5036 io.close(cfile)
5037 end -- file exists
5038 -- Error if sourcename is "lwarp".
5039 -- This could happen if a local copy of lwarp has recently been recompiled.
5040 if sourcename=="lwarp" then
5041 print ("lwarpmk: ===")
5042 print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5043 print ("lwarpmk: and \\lwarpmk.conf\\ is no longer set for your own project.")
5044 print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5045 print ("lwarpmk: In your project directory, recompile your project")
5046 print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
5047 print ("lwarpmk: After a recompile, \\lwarpmk.conf\\ will be set for your project,")
5048 print ("lwarpmk: and you may again use lwarpmk.")
5049 print ("lwarpmk: ===")
5050 os.exit(1)
5051 end -- sourcename of "lwarp"
5052 -- Select some operating-system commands:
5053 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
5054 rmname = "rm"
5055 mvname = "mv"
5056 cpname = "cp"
5057 touchnamepre = "touch"
5058 touchnamepost = ""
5059 newtouchname = "touch"
5060 dirslash = "/"
5061 opquote= "'"
5062 cmdgroupopenname = " ("
5063 cmdgroupclosename = ") "
5064 seqname = " && "
5065 bgnname = " &"
```

```
5066 elseif opsystem=="Windows" then -- For Windows
5067 rmname = "DEL"
5068 mvname = "MOVE"
5069 cpname = "COPY"
5070 touchnamepre = "COPY /b"
5071 touchnamepost = "+,,"
5072 newtouchname = "echo empty >"
5073 dirslash = "\\"
5074 opquote= "\""
5075 cmdgroupopenname = ""
5076 cmdgroupclosename = ""
5077 seqname = " & "
5078 bgname = ""
5079 else
5080 print ("lwarpmk: ===")
5081 print ("lwarpmk: Select Unix or Windows for opsystem.")
5082 print ("lwarpmk: ===")
5083 os.exit(1)
5084 end --- for Windows
5085 -- Warning if the operating system does not appear to be correct,
5086 -- in case files were transferred to another system.
5087 if ((package.config:sub(1,1) ~= dirslash) then
5088 print ("lwarpmk: ===")
5089 print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system.")
5090 printhowtorecompile ()
5091 print ("lwarpmk: ===")
5092 os.exit(1)
5093 end
5094 -- Error if the configuration file's version is not current:
5095 if (confversion ~= requiredconfversion) then
5096 print ("lwarpmk: ===")
5097 printhowtorecompile ()
5098 print ("lwarpmk: ===")
5099 os.exit(1)
5100 end
5101 end -- loadconf
5102
5103
5104 function executecheckerror (executecommands , errormessage)
5105 --
5106 -- Execute an operating system call,
5107 -- and maybe exit with an error message.
5108 --
5109 local err
5110 err = os.execute (executecommands)
5111 if (err ~= 0) then
5112 print ("lwarpmk: ===")
5113 print ("lwarpmk: " .. errormessage)
5114 print ("lwarpmk: ===")
5115 os.exit(1)
5116 end
5117 end -- executecheckerror
5118
5119
5120 function refreshdate ()
```

```
5121 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)
5122 end
5123
5124
5125
5126 function reruntoget (filesource)
5127 --
5128 -- Scan the LaTeX log file for the phrase "Rerun to get",
5129 -- indicating that the file should be compiled again.
5130 -- Return true if found.
5131 --
5132 local fsource = io.open(filesource)
5133 for line in fsource:lines() do
5134 if (string.find(line,"Rerun to get") ~= nil) then
5135 io.close(fsource)
5136 return true
5137 end -- if
5138 end -- do
5139 io.close(fsource)
5140 return false
5141 end
5142
5143
5144
5145 function onetime (latexcmd, fsuffix)
5146 --
5147 -- Compile one time, return true if should compile again.
5148 -- fsuffix is "" for print, "_html" for HTML output.
5149 --
5150 print("lwarpmk: Compiling with: " .. latexcmd)
5151 executecheckerror (
5152 latexcmd ,
5153 "Compile error."
5154)
5155 return (reruntoget(sourcename .. fsuffix .. ".log")) ;
5156 end
5157
5158
5159 function manytimes (latexcmd, fsuffix)
5160 --
5161 -- Compile up to five times.
5162 -- fsuffix is "" for print, "_html" for HTML output
5163 --
5164 if onetime(latexcmd, fsuffix) == true then
5165 if onetime(latexcmd, fsuffix) == true then
5166 if onetime(latexcmd, fsuffix) == true then
5167 if onetime(latexcmd, fsuffix) == true then
5168 if onetime(latexcmd, fsuffix) == true then
5169 end end end end end
5170 end
5171
5172
5173 function verifyfileexists (filename)
5174 --
5175 -- Exit if the given file does not exist.
```

```
5176 --
5177 if (lfs.attributes (filename , "modification") == nil) then
5178 print ("lwarpmk: ===")
5179 print ("lwarpmk: .. filename .. not found.");
5180 print ("lwarpmk: ===")
5181 os.exit (1) ;
5182 end
5183 end
5184
5185
5186
5187 function pdftohtml ()
5188 --
5189 -- Convert <project>.html.pdf into HTML files:
5190 --
5191 -- Convert to text:
5192 print ("lwarpmk: Converting " .. sourcename
5193 .."_html.pdf to " .. sourcename .. "_html.html")
5194 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5195 .. sourcename .. "_html.pdf" .. sourcename .. "_html.html")
5196 -- Split the result into individual HTML files:
5197 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5198 end
5199
5200
5201 function removeaux ()
5202 --
5203 -- Remove auxiliary files:
5204 -- All .aux files are removed since there may be many bbl*.aux files.
5205 -- Also removes sourcename_html.pdf, sourcename_html.html,
5206 -- and sourcename_html.sidetoc, plus comment_*.cut.
5207 --
5208 os.execute (rmname .. " *aux" ..
5209 sourcename ..".toc" .. sourcename .. "_html.toc" ..
5210 sourcename ..".lof" .. sourcename .. "_html.lof" ..
5211 sourcename ..".lot" .. sourcename .. "_html.lot" ..
5212 sourcename ..".bbl" .. sourcename .. "_html.bbl" ..
5213 " *.idx" ..
5214 " *.ind" ..
5215 sourcename ..".ps" .. sourcename .."_html.ps" ..
5216 sourcename ..".log" .. sourcename .. "_html.log" ..
5217 sourcename ..".gl*" .. sourcename .. "_html.gl*" ..
5218 sourcename .. "_html.pdf" ..
5219 sourcename .. "_html.html" ..
5220 sourcename .. "_html.sidetoc" ..
5221 " *_html_inc.*" ..
5222 " comment_*.cut"
5223)
5224 end
5225
5226 function checkhtmlpdfexists ()
5227 --
5228 -- Error if the HTML document does not exist.
5229 -- The lateximages are drawn from the HTML PDF version of the document,
5230 -- so "lwarpmk html" must be done before "lwarpmk limages".
```

```
5231 --
5232 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5233 if (htmlpdffile == nil) then
5234 print ("")
5235 print ("lwarpmk: ===")
5236 print ("lwarpmk: The HTML version of the document does not exist.")
5237 print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5238 print ("lwarpmk: ===")
5239 os.exit(1)
5240 end
5241 io.close (htmlpdffile)
5242 end -- checkhtmlpdfexists
5243
5244
5245 function warnlimages ()
5246 --
5247 -- Warning of a missing <sourcename>-images.txt file:
5248 print ("lwarpmk: ===")
5249 print ("lwarpmk: \" .. sourcename .. "-images.txt\" does not exist.")
5250 print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5251 print ("lwarpmk: or the file has been deleted somehow.")
5252 print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5253 print ("lwarpmk: and recreate \" .. sourcename .. "-images.txt\".")
5254 print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5255 print ("lwarpmk: then \" .. sourcename .. "-images.txt\" will never exist, and")
5256 print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5257 print ("lwarpmk: ===")
5258 end -- warnlimages
5259
5260
5261 function warnlimagesrecompile ()
5262 -- Warning if must recompile before creating limages:
5263 print ("")
5264 print ("lwarpmk: ===")
5265 print ("lwarpmk: Cross-references are not yet correct.")
5266 print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5267 print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5268 print ("lwarpmk: ===")
5269 end --warnlimagesrecompile
5270
5271
5272 function checklimages ()
5273 --
5274 -- Check <sourcename>.txt to see if need to recompile first.
5275 -- If any entry has a page number of zero, then there were incorrect images.
5276 --
5277 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5278 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5279 if (limagesfile == nil) then
5280 warnlimages ()
5281 os.exit(1)
5282 end
5283 -- Track warning to recompile if find a page 0
5284 local pagezerowarning = false
5285 -- Scan <sourcename>.txt
```

```
5286 for line in limagesfile:lines() do
5287 -- lwimgpage is the page number in the PDF which has the image
5288 -- lwimghash is true if this filename is a hash
5289 -- lwimgname is the lateximage filename root to assign for the image
5290 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5291 -- For each entry:
5292 if ((i~nil)) then
5293 -- If the page number is 0, image references are incorrect
5294 -- and must recompile the source document:
5295 if (lwimgpage == "0") then
5296 pagezerowarning = true
5297 end
5298 end -- if i~nil
5299 end -- do
5300 -- The last line should be |end|end|end|.
5301 -- If not, the compile must have aborted, and the images are incomplete.
5302 if (lwimgpage ~= "end") then
5303 warnlimagesrecompile()
5304 os.exit(1) ;
5305 end
5306 if (pagezerowarning) then
5307 warnlimagesrecompile()
5308 os.exit(1) ;
5309 end -- pagezerowarning
5310 end -- checklimages
5311
5312
5313 function createuniximage (lwimgfullname)
5314 --
5315 -- Create one lateximage for Unix / Linux / Mac OS.
5316 --
5317 executecheckerror (
5318 cmdgroupopenname ..
5319 "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5320 sourcename .. "_html.pdf" ..
5321 imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5322 seqname ..
5323 -- Crop the image:
5324 "pdffcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5325 lwimgpage .. ".pdf" ..
5326 imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5327 seqname ..
5328 -- Convert the image to svg:
5329 "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5330 imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5331 seqname ..
5332 -- Remove the temporary files:
5333 rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5334 rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5335 cmdgroupclosename .. " >/dev/null " .. bgname
5336 ,
5337 "File error trying to convert " .. lwimgfullname
5338)
5339 -- Every 32 images, wait for completion at below normal priority,
5340 -- allowing other image tasks to catch up.
```

```
5341 numimageprocesses = numimageprocesses + 1
5342 if (numimageprocesses > 32) then
5343 numimageprocesses = 0
5344 print ("lwarpmk: waiting")
5345 executecheckerror ("wait" , "File error trying to wait.")
5346 end
5347 end -- createuniximage
5348
5349
5350 function createwindowsimage (lwigfullname)
5351 --
5352 -- Create one lateximage for Windows.
5353 --
5354 -- Every 32 images, wait for completion at below normal priority,
5355 -- allowing other image tasks to catch up.
5356 numimageprocesses = numimageprocesses + 1
5357 if (numimageprocesses > 32) then
5358 numimageprocesses = 0
5359 thiswaitcommand = "/WAIT /BELOWNORMAL"
5360 print ("lwarpmk: waiting")
5361 else
5362 thiswaitcommand = ""
5363 end
5364 -- Execute the image generation command
5365 executecheckerror (
5366 "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5367 lwigpage .. " " ..
5368 lwighash .. " " ..
5369 lwigname .. " " ..
5370 sourcename .. " <nul >nul"
5371 ,
5372 "File error trying to create image."
5373)
5374 end -- createwindowsimage
5375
5376
5377 function createonelateximage (line)
5378 --
5379 -- Given the next line of <sourcename>.txt, convert a single image.
5380 --
5381 -- lwigpage is the page number in the PDF which has the image
5382 -- lwighash is true if this filename is a hash
5383 -- lwigname is the lateximage filename root to assign for the image
5384 i,j,lwigpage,lwighash,lwigname = string.find (line,"|(.*)|(.*)|(.*)|")
5385 -- For each entry:
5386 if ((i~=nil)) then
5387 -- Skip if the page number is 0:
5388 if (lwigpage == "0") then
5389 pagezerowarning = true
5390 -- Skip if the page number is "end":
5391 else if (lwigpage == "end") then
5392 else
5393 -- Skip if this image is hashed and already exists:
5394 local lwigfullname = imagesdirectory .. dirslash .. lwigname .. ".svg"
5395 if (
```

```
5396 (lwimghash ~= "true") or
5397 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5398)
5399 then -- not hashed or not exists:
5400 -- Print the name of the file being generated:
5401 print ("lwarpmk: " .. lwimgname)
5402 -- Touch/create the dest so that only once instance tries to build it:
5403 executecheckerror (
5404 newtouchname .. " " .. lwimgfullname ,
5405 "File error trying to touch " .. lwimgfullname
5406)
5407 -- Separate out the image into its own single-page pdf:
5408 if opsystem=="Unix" then
5409 createuniximage (lwimgfullname)
5410 elseif opsystem=="Windows" then
5411 createwindowsimage (lwimgfullname)
5412 end
5413 end -- not hashed or not exists
5414 end -- not page "end"
5415 end -- not page 0
5416 end -- not nil
5417 end -- createonelateximage
5418
5419
5420 function createlateximages ()
5421 --
5422 -- Create lateximages based on <sourcename>-images.txt:
5423 --
5424 -- See if the document must be recompiled first:
5425 checklimages ()
5426 -- See if the HTML version exists:
5427 checkhtmldfxists ()
5428 -- Attempt to create the lateximages:
5429 print ("lwarpmk: Creating lateximages.")
5430 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5431 if (limagesfile == nil) then
5432 warnlimages ()
5433 os.exit(1)
5434 end
5435 -- Create the lateximages directory, ignore error if already exists
5436 err = os.execute("mkdir " .. imagesdirectory)
5437 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5438 if opsystem=="Windows" then
5439 executecheckerror (
5440 cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5441 "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5442)
5443 end -- create lwarp_one_limage.cmd
5444 -- Track the number of parallel processes
5445 numimageprocesses = 0
5446 -- Track warning to recompile if find a page 0
5447 pagezerowarning = false
5448 -- Scan <sourcename>.txt
5449 for line in limagesfile:lines() do
5450 createonelateximage (line)
```

```
5451 end -- do
5452 io.close(limagesfile)
5453 print ("lwarpmk limages: ===")
5454 print ("lwarpmk limages: Wait a moment for the images to complete")
5455 print ("lwarpmk limages: before reloading the page.")
5456 print ("lwarpmk limages: ===")
5457 print ("lwarpmk limages: Done.")
5458 if (pagezerowarning == true) then
5459 print ("lwarpmk limages: WARNING: Images will be incorrect.")
5460 print ("lwarpmk limages: Enter \"lwarpmk cleanimages\", then")
5461 print ("lwarpmk limages: recompile the document one more time, then")
5462 print ("lwarpmk limages: repeat \"lwarpmk images\" again.")
5463 end -- pagezerowarning
5464 end -- function
5465
5466
5467 function convertepstopdf ()
5468 --
5469 -- Converts EPS files to PDF files.
5470 -- The filenames are arg[argindex] and up.
5471 -- arg[1] is the command "epstopdf".
5472 --
5473 ignoreconf ()
5474 for i = argindex , #arg do
5475 if (lfs.attributes(arg[i],"mode")==nil) then
5476 print ("lwarpmk: File \" .. arg[i] .. \" does not exist.")
5477 else
5478 print ("lwarpmk: Converting \" .. arg[i] .. \"")
5479 thispath, thisfilename, thisextension = splitfilename(arg[i])
5480 if (thispath == nil) then
5481 os.execute ("epstopdf " .. arg[i])
5482 else
5483 os.execute (
5484 "epstopdf " ..
5485 thispath .. thisfilename .. "." .. thisextension .. " " ..
5486 thispath .. thisfilename .. ".pdf"
5487)
5488 end
5489 end -- if
5490 end -- do
5491 end --function
5492
5493
5494 function convertpdftosvg ()
5495 --
5496 -- Converts PDF files to SVG files.
5497 -- The filenames are arg[argindex] and up.
5498 -- arg[1] is the command "pdftosvg".
5499 --
5500 ignoreconf ()
5501 for i = argindex , #arg do
5502 if (lfs.attributes(arg[i],"mode")==nil) then
5503 print ("lwarpmk: File \" .. arg[i] .. \" does not exist.")
5504 else
5505 print ("lwarpmk: Converting \" .. arg[i] .. \"")
```

```
5506 thispath, thisfilename, thisextension = splitfilename(arg[i])
5507 if (thispath == nil) then
5508 os.execute ("pdftocairo -svg " .. arg[i])
5509 else
5510 os.execute (
5511 "pdftocairo -svg " ..
5512 thispath .. thisfilename .. "." .. thisextension .. " " ..
5513 thispath .. thisfilename .. ".svg"
5514)
5515 end
5516 end -- if
5517 end -- do
5518 end --function
5519
5520
5521 -- Force an update and conclude processing:
5522 function updateanddone ()
5523 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5524 refreshdate ()
5525 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5526 print ("lwarpmk: Done.")
5527 end -- function
5528
5529
5530 -- Start of the main code: --
5531
5532
5533 -- lwarpmk --version :
5534
5535 if (arg[1] == "--version") then
5536 print ("lwarpmk: " .. printversion)
5537
5538 else -- not --version
5539
5540
5541 -- print intro:
5542
5543 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5544
5545
5546 -- lwarpmk print:
5547
5548 if arg[1] == "print" then
5549 loadconf ()
5550 if (latexmk == "true") then
5551 print ("lwarpmk: Compiling with: " .. printlatexcmd)
5552 executecheckerror (
5553 printlatexcmd ,
5554 "Compile error."
5555)
5556 print ("lwarpmk: Done.")
5557 else -- not latexmk
5558 verifyfileexists (sourcename .. ".tex") ;
5559 -- See if up to date:
5560 if (
```

```
5561 (lfs.attributes (sourcename .. ".pdf" , "modification") == nil) or
5562 (
5563 lfs.attributes (sourcename .. ".tex" , "modification") >
5564 lfs.attributes (sourcename .. ".pdf" , "modification")
5565)
5566) then
5567 -- Recompile if not yet up to date:
5568 manytimes(printlatexcmd, "")
5569 print ("lwarpmk: Done.") ;
5570 else
5571 print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5572 end
5573 end -- not latexmk
5574
5575
5576 -- lwarpmk print1:
5577
5578 elseif arg[1] == "print1" then
5579 loadconf ()
5580 verifyfileexists (sourcename .. ".tex") ;
5581 onetime(printlatexcmd, "")
5582 print ("lwarpmk: Done.") ;
5583
5584
5585 -- lwarpmk printindex:
5586 -- Compile the index then touch the source
5587 -- to trigger a recompile of the document:
5588
5589 elseif arg[1] == "printindex" then
5590 loadconf ()
5591 os.execute (printindexcmd)
5592 print ("lwarpmk: -----")
5593 updateanddone ()
5594
5595
5596 -- lwarpmk printglossary:
5597 -- Compile the glossary then touch the source
5598 -- to trigger a recompile of the document:
5599
5600 elseif arg[1] == "printglossary" then
5601 loadconf ()
5602 print ("lwarpmk: Processing the glossary.")
5603
5604 os.execute(glossarycmd .. " " .. sourcename)
5605 updateanddone ()
5606
5607
5608 -- lwarpmk html:
5609
5610 elseif arg[1] == "html" then
5611 loadconf ()
5612 if (latexmk == "true") then
5613 print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5614 executecheckerror (
5615 HTMLlatexcmd ,
```

```
5616 "Compile error."
5617)
5618 pdftohtml ()
5619 print ("lwarpmk: Done.")
5620 else -- not latexmk
5621 verifyfileexists (sourcename .. ".tex") ;
5622 -- See if exists and is up to date:
5623 if (
5624 (lfs.attributes (homehtmlfilename .. ".html" , "modification") == nil) or
5625 (
5626 lfs.attributes (sourcename .. ".tex" , "modification") >
5627 lfs.attributes (homehtmlfilename .. ".html" , "modification")
5628)
5629) then
5630 -- Recompile if not yet up to date:
5631 manytimes(HTMLLatexcmd, "_html")
5632 pdftohtml ()
5633 print ("lwarpmk: Done.")
5634 else
5635 print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5636 end
5637 end -- not latexmk
5638
5639
5640 -- lwarpmk html1:
5641
5642 elseif arg[1] == "html1" then
5643 loadconf ()
5644 verifyfileexists (sourcename .. ".tex") ;
5645 onetime(HTMLLatexcmd, "_html")
5646 pdftohtml ()
5647 print ("lwarpmk: Done.")
5648
5649
5650 -- lwarpmk pdftohtml:
5651 elseif arg[1] == "pdftohtml" then
5652 loadconf ()
5653 pdftohtml ()
5654
5655
5656 -- lwarpmk htmlindex:
5657 -- Compile the index then touch the source
5658 -- to trigger a recompile of the document:
5659
5660 elseif arg[1] == "htmlindex" then
5661 loadconf ()
5662 os.execute (HTMLIndexcmd)
5663 print ("lwarpmk: -----")
5664 updateanddone ()
5665
5666
5667 -- lwarpmk htmlglossary:
5668 -- Compile the glossary then touch the source
5669 -- to trigger a recompile of the document.
5670 -- The <sourcename>.xdy file is created by the glossaries package.
```

```
5671
5672 elseif arg[1] == "htmlglossary" then
5673 loadconf ()
5674 print ("lwarpmk: Processing the glossary.")
5675 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5676 updateanddone ()
5677
5678
5679 -- lwarpmk limages:
5680 -- Scan the <sourcename>.txt file to create lateximages.
5681
5682 elseif arg[1] == "limages" then
5683 loadconf ()
5684 print ("lwarpmk: Processing images.")
5685 createlateximages ()
5686 print ("lwarpmk: Done.")
5687
5688
5689 -- lwarpmk again:
5690 -- Touch the source to trigger a recompile.
5691
5692 elseif arg[1] == "again" then
5693 loadconf ()
5694 updateanddone ()
5695
5696
5697 -- lwarpmk clean:
5698 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5699
5700 elseif arg[1] == "clean" then
5701 loadconf ()
5702 removeaux ()
5703 print ("lwarpmk: Done.")
5704
5705
5706 -- lwarpmk cleanall
5707 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5708 -- and also project.pdf, project.dvi, *.html
5709
5710 elseif arg[1] == "cleanall" then
5711 loadconf ()
5712 removeaux ()
5713 os.execute (rmname .. " " ..
5714 sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5715 sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5716 "*.*html"
5717)
5718 print ("lwarpmk: Done.")
5719
5720
5721 -- lwarpmk cleanlimages
5722 -- Remove images from the imagesdirectory.
5723
5724 elseif arg[1] == "cleanlimages" then
5725 loadconf ()
```

```
5726 os.execute (rmname .. " " .. imagesdirectory .. dirslash .. "*")
5727 print ("lwarpmk: Done.")
5728
5729 -- lwarpmk epstopdf <list of file names>
5730 -- Convert EPS files to PDF using epstopdf
5731 elseif arg[1] == "epstopdf" then
5732 convertepstopdf ()
5733 print ("lwarpmk: Done.")
5734
5735
5736 -- lwarpmk pdftosvg <list of file names>
5737 -- Convert PDF files to SVG using pdftocairo
5738 elseif arg[1] == "pdftosvg" then
5739 convertpdftosvg ()
5740 print ("lwarpmk: Done.")
5741
5742
5743 -- lwarpmk with no argument :
5744
5745 elseif (arg[1] == nil) then
5746 printhelp ()
5747
5748
5749 -- lwarpmk -v:
5750
5751 elseif (arg[1] == "-v") then
5752 -- The version number has already been printed
5753 -- by the lwarpmk intro.
5754
5755 -- lwarpmk -h or lwarpmk --help :
5756
5757 elseif (arg[1] == "-h") or (arg[1] == "--help") then
5758 printusage ()
5759
5760
5761 -- Unknown command:
5762
5763 else
5764 printhelp ()
5765 print ("\nlwarpmk: ***** Unknown command \"..arg[1]..\". *****\n")
5766 end
5767
5768 end -- not --version
5769 \end{filecontents*}
5770 % \end{Verbatim} for syntax highlighting
5771 \end{LWRcreatelwarpmk}
```

## 41 Stacks

for HTML output: 5772 \begin{warpHTML}

Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new \section would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in \LWR@closedepthone, etc.

## 41.1 Assigning depths

initial depths for empty stack entries:

```
5773 \newcommand*{\LWR@depthnone}{-5}
```

All sectioning depths are deeper than \LWR@depthfinished:

```
5774 \newcommand*{\LWR@depthfinished}{-4}
5775 \newcommand*{\LWR@depthbook}{-2}
5776 \newcommand*{\LWR@depthpart}{-1}
5777 \newcommand*{\LWR@depthchapter}{0}
5778 \newcommand*{\LWR@depthsection}{1}
5779 \newcommand*{\LWR@depthsubsection}{2}
5780 \newcommand*{\LWR@depthsubsubsection}{3}
5781 \newcommand*{\LWR@depthparagraph}{4}
5782 \newcommand*{\LWR@depthsubparagraph}{5}
```

Used by \itemize, \enumerate, \description:

```
5783 \newcommand*{\LWR@depthlist}{6}
```

Used by \item:

```
5784 \newcommand*{\LWR@depthlistitem}{7}
5785 \let\LWR@depthdescitem\LWR@depthlistitem
```

## 41.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to \pushclose and \popclose as well.

```
5786 \newcommand*{\LWR@closeone}{}% top of the stack
5787 \newcommand*{\LWR@closetwo}{}%
5788 \newcommand*{\LWR@closethree}{}%
5789 \newcommand*{\LWR@closefour}{}%
```

---

```

5790 \newcommand*\{LWR@closefive}{}}
5791 \newcommand*\{LWR@closesix}{}}
5792 \newcommand*\{LWR@closeseven}{}}
5793 \newcommand*\{LWR@closeeight}{}}
5794 \newcommand*\{LWR@closenine}{}}
5795 \newcommand*\{LWR@closeten}{}}
5796 \newcommand*\{LWR@closeeleven}{}}
5797 \newcommand*\{LWR@closetwelve}{}}
5798 \newcommand*\{LWR@closethirteen}{}}
5799 \newcommand*\{LWR@closefourteen}{}}
5800 \newcommand*\{LWR@closefifteen}{}}
5801 \newcommand*\{LWR@closesixteen}{}}
5802 \newcommand*\{LWR@closeseventeen}{}}
5803 \newcommand*\{LWR@closeeighteen}{}}
5804 \newcommand*\{LWR@closenineteen}{}}

```

### 41.3 Closing depths

A stack to record the depth of each level:

-  Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```

\begin{itemize}
 \item{A}
 \begin{description}
 \item{B}
 \end{description}
 \end{itemize}

```

---

```

5805 \newcommand*\{LWR@closedepthonne}\{LWR@depthnone}\% top of the stack
5806 \newcommand*\{LWR@closedepthtwo}\{LWR@depthnone}
5807 \newcommand*\{LWR@closedeptpthree}\{LWR@depthnone}
5808 \newcommand*\{LWR@closedeptphour}\{LWR@depthnone}
5809 \newcommand*\{LWR@closedeptpfive}\{LWR@depthnone}
5810 \newcommand*\{LWR@closedeptpsix}\{LWR@depthnone}
5811 \newcommand*\{LWR@closedeptpthseven}\{LWR@depthnone}
5812 \newcommand*\{LWR@closedeptphight}\{LWR@depthnone}
5813 \newcommand*\{LWR@closedeptnhnne}\{LWR@depthnone}
5814 \newcommand*\{LWR@closedeptnhten}\{LWR@depthnone}
5815 \newcommand*\{LWR@closedepttheleven}\{LWR@depthnone}
5816 \newcommand*\{LWR@closedepthtwelve}\{LWR@depthnone}
5817 \newcommand*\{LWR@closedeptpthirteen}\{LWR@depthnone}
5818 \newcommand*\{LWR@closedeptphourteen}\{LWR@depthnone}
5819 \newcommand*\{LWR@closedeptpfifteen}\{LWR@depthnone}
5820 \newcommand*\{LWR@closedeptphsixteen}\{LWR@depthnone}
5821 \newcommand*\{LWR@closedeptphseventeen}\{LWR@depthnone}
5822 \newcommand*\{LWR@closedeptphighteen}\{LWR@depthnone}
5823 \newcommand*\{LWR@closedeptnineten}\{LWR@depthnone}

```

## 41.4 Pushing and popping the stack

```
\LWR@pushclose {<sectiontype>}
```

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```

5824 \NewDocumentCommand{\LWR@pushclose}{m}
5825 {%
5826 \global\let\LWR@closeineteen\LWR@closeeighteen%
5827 \global\let\LWR@closeeighteen\LWR@closeseventeen%
5828 \global\let\LWR@closeseventeen\LWR@closesixteen%
5829 \global\let\LWR@closesixteen\LWR@closefifteen%
5830 \global\let\LWR@closefifteen\LWR@closefourteen%
5831 \global\let\LWR@closefourteen\LWR@closethirteen%
5832 \global\let\LWR@closethirteen\LWR@closetwelve%
5833 \global\let\LWR@closetwelve\LWR@closeeleven%
5834 \global\let\LWR@closeeleven\LWR@closeten%
5835 \global\let\LWR@closeten\LWR@closenine%
5836 \global\let\LWR@closenine\LWR@closeeight%
5837 \global\let\LWR@closeeight\LWR@closeseven%
5838 \global\let\LWR@closeseven\LWR@closesix%
5839 \global\let\LWR@closesix\LWR@closefive%
5840 \global\let\LWR@closefive\LWR@closefour%
5841 \global\let\LWR@closefour\LWR@closethree%
5842 \global\let\LWR@closethree\LWR@closetwo%
5843 \global\let\LWR@closetwo\LWR@closeone%
5844 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5845 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
5846 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
5847 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
5848 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
5849 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
5850 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
5851 \global\let\LWR@closedepththirteen\LWR@closedepthtwelve%
5852 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5853 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5854 \global\let\LWR@closedepthten\LWR@closedepthnine%
5855 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5856 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5857 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5858 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5859 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5860 \global\let\LWR@closedepthfour\LWR@closedepththree%
5861 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5862 \global\let\LWR@closedepthtwo\LWR@closedepthonne%
5863 \global\csletcs{\LWR@closedepthonne}{\LWR@depth#1}%

```

Error if the deepest depth is no longer \LWR@depthnone, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

5864 \ifdefstring{\LWR@closedepthnineteen}{\LWR@depthnone}%
5865 {}%
5866 {%
5867 \PackageError{lwarp}%
5868 {The document is nested too deeply for Lwarp}%

```

---

```

5869 {PLEASE inform the Lwarp maintainer!}%
5870 }%
5871 }
```

\LWR@popclose Pops one action and its depth off the stacks.

```

5872 \newcommand*{\LWR@popclose}{%
5873 {%
5874 \global\let\LWR@closeone\LWR@closetwo%
5875 \global\let\LWR@closetwo\LWR@closethree%
5876 \global\let\LWR@closethree\LWR@closefour%
5877 \global\let\LWR@closefour\LWR@closefive%
5878 \global\let\LWR@closefive\LWR@closesix%
5879 \global\let\LWR@closesix\LWR@closeseven%
5880 \global\let\LWR@closeseven\LWR@closeeight%
5881 \global\let\LWR@closeeight\LWR@closenine%
5882 \global\let\LWR@closenine\LWR@closeten%
5883 \global\let\LWR@closeten\LWR@closeeleven%
5884 \global\let\LWR@closeeleven\LWR@closetwelve%
5885 \global\let\LWR@closetwelve\LWR@closethirteen%
5886 \global\let\LWR@closethirteen\LWR@closefourteen%
5887 \global\let\LWR@closefourteen\LWR@closefifteen%
5888 \global\let\LWR@closefifteen\LWR@closesixteen%
5889 \global\let\LWR@closesixteen\LWR@closeseventeen%
5890 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5891 \global\let\LWR@closeeighteen\LWR@closenineteen%
5892 \global\let\LWR@closedepthon\LWR@closedepthtwo%
5893 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5894 \global\let\LWR@closedepththree\LWR@closedepthfour%
5895 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5896 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5897 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5898 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5899 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5900 \global\let\LWR@closedepthnine\LWR@closedepthten%
5901 \global\let\LWR@closedepthten\LWR@closedeptheleven%
5902 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5903 \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
5904 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5905 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5906 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5907 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5908 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5909 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5910 }%
```

```
5911 \end{warpHTML}
```

## 42 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray`'s argument is expanded only once when assigned.

name has no backslash, index can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}[]
```

**for HTML output:** 5912 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}

5913 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5914 \let\temp@par\par%
5915 \let\par\relax%
5916 \edef\LWR@thisexparrayname{\#1\#2}%
5917 \ifstrempty{\#3}{%
5918 {\csdef{\LWR@thisexparrayname}{} }%
5919 {\csedef{\LWR@thisexparrayname}{\#3}}%
5920 \let\par\LWR@temp@par%
5921 }

\LWR@getexparray {<name>} {<index>}

5922 \newcommand*\LWR@getexparray[2]{%
5923 \nameuse{\#1\#2}%
5924 }

5925 \end{warpHTML}
```

## 43 Localizing catcodes

**for HTML & PRINT:** 5926 `\begin{warpall}`

⚠ **Misplaced alignment tab character &**

Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error

Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
5927 \newcommand{\StartDefiningTabulars}{%
5928 \LWR@traceinfo{StartDefiningTabulars}%
5929 \warpHTMLonly{\catcode`\&=\active}%
5930 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

---

```

5931 \newcommand{\StopDefiningTabulars}{%
5932 \LWR@traceinfo{StopDefiningTabulars}%
5933 \warpHTMLonly{\catcode`\&=4}%
5934 }

```

`Bool LWR@mathmacro` True if currently defining math macros. Used to disable SVG math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```

5935 \newbool{LWR@mathmacro}
5936 \boolexfalse{LWR@mathmacro}

```

`\StartDefiningMath` Place before defining something with \$ in it.

```

5937 \newcommand{\StartDefiningMath}{%
5938 \LWR@traceinfo{StartDefiningMath}%
5939 \warpHTMLonly{\catcode`\$=\active}%
5940 }

```

`\StopDefiningMath` Place after defining something with \$ in it.

```

5941 \newcommand{\StopDefiningMath}{%
5942 \LWR@traceinfo{StopDefiningMath}%
5943 \warpHTMLonly{\catcode`\$=3}% math shift
5944 }

```

```
5945 \end{warpall}
```

## 44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For MATHJAX, the inline math expression is usually printed for MATHJAX to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

---

```

\xpatchcmd{\macro}
{$math expression$}
{\inlinemathother$math expression$\inlinemathnormal}

```

---

```
{}
{\typeout{Error patching macroname.}}
```

---

**for HTML & PRINT:** 5946 \begin{warpall}

Bool LWR@dynamicmath True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
Default: false

```
5947 \newbool{LWR@dynamicmath}
5948 \boolfalse{LWR@dynamicmath}
```

\inlinemathother Place before using \$ ... \$ or \(...\!) if the contents of the math are not static, depending on counters or dynamic macros.

```
5949 \newcommand{\inlinemathother}{%
5950 \LWR@traceinfo{inlinemathother}%
5951 \booltrue{LWR@dynamicmath}%
5952 }
```

\inlinemathnormal Place after using \$ ... \$ or \(...\!) with dynamic contents.

```
5953 \newcommand{\inlinemathnormal}{%
5954 \LWR@traceinfo{inlinemathnormal}%
5955 \boolfalse{LWR@dynamicmath}%
5956 }
```

```
5957 \end{warpall}
```

## 45 HTML entities

**for HTML output:** 5958 \begin{warpHTML}

HTML Unicode entities:

```
5959 \let\LWR@origampersand\&
```

\HTMLentity {\<entitytag>}

```
5960 \newcommand*{\HTMLentity}[1]{%
5961 % \LWR@traceinfo{HTMLentity} \detokenize{#1}%
5962 \begingroup%
5963 \LWR@hook@processingtags%
5964 \LWR@origampersand#1;%
5965 \endgroup%
5966 % \LWR@traceinfo{HTMLentity done}%
5967 }
```

```
\HTMLunicode {\<hex_unicode>}

5968 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}{}}

\&

5969 \renewrobustcmd*{\&}{\HTMLentity{amp}{}}

\textless

5970 \let\LWR@origtextless\textless
5971 \renewrobustcmd*{\textless}{\HTMLentity{lt}{}}

\textgreater

5972 \let\LWR@origtextgreater\textgreater
5973 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}{}}

5974 \end{warpHTML}
```

## 46 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

- for HTML & PRINT:** 5975 `\begin{warpall}`
- `\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.
  - 5976 `\providecommand*{\BaseJobname}{\jobname}`
  - `\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section [7.6.1](#).
  - 5977 `\providecommand*{\HTMLFilename}{}{}`
  - `\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section [7.6.1](#).
  - 5978 `\providecommand*{\HomeHTMLFilename}{\BaseJobname}`
  - `\SetHTMLFileName` `\{<number>\}`
- Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number

---

of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
5979 \newcommand*{\SetHTMLFileName}[1]{%
5980 \setcounter{LWR@htmlfilename}{#1}%
5981 }
```

**Bool FileSectionNames** Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
5982 \newbool{FileSectionNames}
5983 \booltrue{FileSectionNames}

5984 \end{warpall}
```

**for HTML output:** 5985 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
5986 \newcounter{LWR@HTMLpagenum}
5987 \setcounter{LWR@HTMLpagenum}{0}
```

**Ctr LWR@htmlseqfilename** A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike \LWR@htmlfilename, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called \BaseJobname-autofile-\*, and the last page is also labelled \BaseJobname-autofile-last.

```
5988 \newcounter{LWR@htmlseqfilename}
5989 \setcounter{LWR@htmlseqfilename}{0}
```

**Bool LWR@setseqfilelabel** At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
5990 \newbool{LWR@setseqfilelabel}
5991 \setbool{LWR@setseqfilelabel}{false}
```

**Ctr LWR@htmlfilename** Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use \SetHTMLFileName to create groups of numbered nodes.

```
5992 \newcounter{LWR@htmlfilename}
5993 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {<htmlfilename or name>}

Prints the filename for a given section: \HTMLFilename{}filename/name.html

---

```

5994 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5995 \LWR@traceinfo{\LWR@htmlsectionfilename A !\detokenize{#1}!}%
5996 \begingroup%

```

Disable CJK `xpinyin` while generating file names.

```
5997 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```

5998 % \LWR@traceinfo{about to assign temp}%
5999 \LWR@sanitize{#1}%
6000 \LWR@traceinfo{about to compare with ??}%
6001 \ifdefstring{\LWR@sanitized}{??}%
6002 {\LWR@traceinfo{found ??}%
6003 {\LWR@traceinfo{not found ??}}}%
6004 \LWR@traceinfo{about to compare with zero or empty}%
6005 \ifboolexpr{%
6006 test {\ifdefstring{\LWR@sanitized}{0}} or
6007 test {\ifdefstring{\LWR@sanitized}{}} or
6008 test {\ifdefstring{\LWR@sanitized}{??}}%
6009 }%
6010 {%
6011 \LWR@traceinfo{\LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
6012 \HomeHTMLFilename.html%
6013 }%

```

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```

6014 {%
6015 \LWR@traceinfo{\LWR@htmlsectionfilename C \LWR@sanitized}%
6016 \ifboolexpr{%
6017 test{\ifdefvoid{\HTMLFilename}} and
6018 (
6019 test{\ifdefstring{\LWR@sanitized}{Index}} or
6020 test{\ifdefstring{\LWR@sanitized}{index}}%
6021)%
6022 }%
6023 {%
6024 \LWR@traceinfo{Adding a zero to the index filename.}%
6025 \LWR@sanitized-0.html%
6026 }%

```

Otherwise, create a filename with the chosen prefix:

```

6027 {%
6028 \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6029 }%
6030 }%
6031 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
6032 \endgroup%
6033 }%

```

---

\LWR@htmlrefsectionfilename {*<label>*}

Prints the filename for the given label

```
6034 \newcommand*\LWR@htmlrefsectionfilename[1]{%
6035 \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%
```

\LWR@nullfonts to allow math in a section name.

```
6036 \begingroup%
6037 \LWR@nullfonts%
6038 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6039 \endgroup%
6040 \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
6041 }
```

```
6042 \end{warpHTML}
```

## 47 Homepage link

**for HTML & PRINT:** 6043 \begin{warpall}

\linkhomename Holds the default name for the home link.

```
6044 \newcommand{\linkhomename}{Home}
```

```
6045 \end{warpall}
```

**for HTML output:** 6046 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
6047 \newcommand*\LinkHome{%
6048 \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
6049 }
```

```
6050 \end{warpHTML}
```

**for PRINT output:** 6051 \begin{warpprint}

\LinkHome May be used wherever you wish to place a link back to the homepage. For print output, if hyperref is available a hyperlink to the first page is used, named by \linkhomename. If hyperref is not available, a pageref is used instead.

\BaseJobname is included in the link label in case multiple documents are cross-referenced.

```

6052 \AtBeginDocument{
6053 \@ifundefined{hyperref}{
6054 \newcommand*\{\LinkHome}{%
6055 \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
6056 }
6057 }{
6058 \newcommand*\{\LinkHome}{%
6059 \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
6060 }
6061 }
6062 }
6063
6064 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

6065 \end{warpprint}

for HTML output: 6066 \begin{warpHTML}

```

\LWR@topnavigation Creates a link to the homepage at the top of the page for use when the window is too narrow for the sidetoc.

```

6067 \newcommand*\{\LWR@topnavigation}{%
6068 \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}
6069 }

```

\LWR@botnavigation Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sidetoc.

```

6070 \newcommand*\{\LWR@botnavigation}{%
6071 \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}
6072 }

```

```
6073 \end{warpHTML}
```

## 48 Previous/next navigation links

**for HTML & PRINT:** 6074 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

```
6075 \newcommand*\{\linkpreviousname}{Previous}
```

\linknextname What to call the link to the next web page.

```
6076 \newcommand*\{\linknextname}{Next}
```

```
6077 \end{warpall}
```

**for PRINT output:** 6078 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

```
6079 \newcommand*{\LinkPrevious}{}%
```

\LinkNext Creates a link to the next web page if there is one.

```
6080 \newcommand*{\LinkNext}{}%
```

```
6081 \end{warpprint}
```

**for HTML output:** 6082 \begin{warpHTML}

\LinkPrevious Creates a link to the previous web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\*

```
6083 \newcommand*{\LinkPrevious}{%
6084 \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{}{%
6085 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
6086 \LWR@subhyperrefclass{%
6087 \LWR@htmlrefsectionfilename{%
6088 \BaseJobname-autofile-\arabic{LWR@tempcountone}}%
6089 }%
6090 }{\linkpreviousname}{linkhome}%
6091 }%
6092 }
```

\LinkNext Creates a link to the next web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels \Basejobname-autofile-\* and the last is the label \Basejobname-autofile-last

```
6093 \newcommand*{\LinkNext}{%
6094 \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
6095 \edef\LWR@tempone{%
6096 \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}}%
6097 }%
6098 \edef\LWR@temptwo{%
6099 \LWR@htmlfileref{\BaseJobname-autofile-last}}%
6100 }%
6101 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
6102 \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
6103 \LWR@subhyperrefclass{%
6104 \LWR@htmlrefsectionfilename{%
6105 \BaseJobname-autofile-\arabic{LWR@tempcountone}}%
6106 }%
6107 }{\linknextname}{linkhome}%
6108 }%
6109 }{}%
6110 }
```

```
6111 \end{warpHTML}
```

## 49 \LWRPrintStack diagnostic tool

 Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X nesting depth values for the stack levels. \LWR@startpars is used before printing the stack, so that \LWRPrintStack may be called from anywhere in the normal text flow.

**for HTML output:** 6112 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```

6113 \newcommand*{\LWR@subprintstack}{
6114 \LWR@closedepthonetwo\ \LWR@closedepthtwo\ \LWR@closedepththree\
6115 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
6116 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedeptnine\
6117 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\
6118 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\
6119 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\
6120 \LWR@closedeptnineteen\
6121 }
6122
6123 \newcommand*{\LWRPrintStack}{
6124 \LWR@startpars
6125 \LWR@subprintstack
6126 }

6127 \end{warpHTML}

```

**for PRINT output:** 6128 \begin{warpprint}

```

6129 \newcommand*{\LWRPrintStack}{}%
6130 \end{warpprint}

```

## 50 Closing stack levels

**for HTML output:** 6131 \begin{warpHTML}

Close one nested level:

```

6132 \newcommand*{\LWR@closeoneprevious}{%
6133
6134 \LWR@closeone
6135
6136 \LWR@popclose
6137 }

```

\LWR@closeprevious {<sectintype>} Close everything up to the given depth:

```

6138 \newcommand*{\LWR@closeprevious}[1]{%

```

---

```

6139 \LWR@traceinfo{%
6140 LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
6141 depths are \LWR@subprintstack%
6142 }%

```

Close any pending paragraph:

```
6143 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```

6144 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{\LWR@depth#1}}}}{%
6145 }%
6146 \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6147 \LWR@closeoneprevious%
6148 }%
6149 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}{%
6150 }%
6151 \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6152 \LWR@closeoneprevious%
6153 }{ }%
6154 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
6155 }

```

```
6156 \end{warpHTML}
```

## 51 PDF pages and styles

**for HTML output:** 6157 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as `verse`. Reduces the chance of an environment overflowing the HTML PDF output page.

```

6158 \newcommand{\LWR@forcenewpage}{%
6159 \LWR@traceinfo{\LWR@forcenewpage}%
6160 \ifinner\else%
6161 \LWR@traceinfo{\LWR@forcenewpage A}%
6162 \LWR@stoppars%
6163 \LWR@traceinfo{\LWR@forcenewpage B}%
6164 \LWR@maybe@orignewpage%
6165 \LWR@traceinfo{\LWR@forcenewpage C}%
6166 \LWR@startpars%
6167 \fi%
6168 \LWR@traceinfo{\LWR@forcenewpage done}%
6169 }

```

\pagestyle, etc. are nullified for HTML output.

```
\pagestyle {⟨style⟩}
6170 \renewcommand*\pagestyle[1] {}

\thispagestyle {⟨style⟩}
6171 \renewcommand*\thispagestyle[1] {}

\markboth {⟨left⟩} {⟨right⟩}
6172 \renewcommand*\markboth[2] {}

\markright {⟨right⟩}
6173 \renewcommand*\markright[1] {}

\raggedbottom
6174 \renewcommand*\raggedbottom{}

\flushbottom
6175 \renewcommand*\flushbottom{}

\sloppy
6176 \renewcommand*\sloppy{ {} }

\fussy
6177 \renewcommand*\fussy{ {} }

\pagenumbering * {⟨commands⟩}
6178 \RenewDocumentCommand{\pagenumbering}{s m}{}

6179 \end{warpHTML}
```

## 52 HTML tags, spans, divs, elements

**for HTML output:** 6180 \begin{warpHTML}

## 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```

6181 \newcommand*\{\LWR@tagtitle\}{h1}
6182 \newcommand*\{\LWR@tagtitleend\}{/h1}
6183 \newcommand*\{\LWR@tagbook\}{div class=\textquotedbl{}book\textquotedbl{}}
6184 \newcommand*\{\LWR@tagbookend\}{/div}
6185 \newcommand*\{\LWR@tagpart\}{h2}
6186 \newcommand*\{\LWR@tagpartend\}{/h2}
6187 \newcommand*\{\LWR@tagchapter\}{h3}
6188 \newcommand*\{\LWR@tagchapterend\}{/h3}
6189 \newcommand*\{\LWR@tagsection\}{h4}
6190 \newcommand*\{\LWR@tagsectionend\}{/h4}
6191 \newcommand*\{\LWR@tagsubsection\}{h5}
6192 \newcommand*\{\LWR@tagsubsectionend\}{/h5}
6193 \newcommand*\{\LWR@tagsubsubsection\}{h6}
6194 \newcommand*\{\LWR@tagsubsubsectionend\}{/h6}
6195 \newcommand*\{\LWR@tagparagraph\}{span class=\textquotedbl{}paragraph\textquotedbl{}}
6196 \newcommand*\{\LWR@tagparagraphend\}{/span}
6197 \newcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
6198 \newcommand*\{\LWR@tagsubparagraphend\}{/span}
6199
6200 \newcommand*\{\LWR@tagregularparagraph\}{p}

```

## 52.2 Hook while processing tags

This is used to disable special text processing while processing HTML tags. Special processing includes that done by `babel-french`, `luavina`, `xevlna`.

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```
6201 \newcommand*\{\LWR@hook@processingtags\}{}
```

## 52.3 Babel-French tag modifications

Adjust `babel-french` for HTML spaces. So far, this only works for `pdflatex` and `xelatex`.

(Emulates or patches code by DANIEL FLIPO.)

```

6202 \providecommand*\{\LWR@FBcancel\}{}
6203
6204 \AtBeginDocument{%
```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```

6205 @ifundefined{NoAutoSpacing}%
6206 {}%
6207 {%
6208 \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
```

```
6209 \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6210 }%
6211
6212 \@ifundefined{frenchbsetup}%
6213 {}%
6214 {}%
6215 \frenchbsetup{FrenchFootnotes=false}%

6216 %
6217 \renewrobustcmd*{\FBcolonspace}{%
6218 \begingroup%
6219 \LWR@hook@processingtags%
6220 \LWR@origampersand{}nbsp;%
6221 \endgroup%
6222 }%
6223 \renewrobustcmd*{\FBthinspace}{%
6224 \begingroup%
6225 \LWR@hook@processingtags%
6226 \LWR@origampersand\LWR@origpound{}x202f;% ,
6227 \endgroup%
6228 }%
6229 \renewrobustcmd*{\FBguillspace}{%
6230 \begingroup%
6231 \LWR@hook@processingtags%
6232 \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}%
6233 \endgroup%
6234 }%
6235 \DeclareDocumentCommand{\FBmedkern}{}{%
6236 \begingroup%
6237 \LWR@hook@processingtags%
6238 \LWR@origampersand\LWR@origpound{}x202f;% ,
6239 \endgroup%
6240 }%
6241 \DeclareDocumentCommand{\FBthickkern}{}{%
6242 \begingroup%
6243 \LWR@hook@processingtags%
6244 \LWR@origampersand{}nbsp;% ~
6245 \endgroup%
6246 }%
6247 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6248 \iffBunicode%
6249 \else%
6250 \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6251 \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6252 \fi%
6253 }%
6254 }
```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

---

\LWR@indentHTML Newline and indent the output HTML code.

```
6255 \newcommand*{\LWR@indentHTML}{%
6256 \LWR@orignewline\LWR@origrule{2em}{0pt}%
6257 }
```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```
6258 \newcommand*{\LWR@indentHTMLtwo}{%
6259 \LWR@orignewline\LWR@origrule{4em}{0pt}%
6260 }
```

## 52.5 HTML tags

\LWR@htmlltagc {*tag*} Break ligatures and use upright apostrophes in HTML tags.

\protect is in case the tag appears in TOC, LOF, LOT.

```
6261 \newcommand*{\LWR@htmlltagc}[1]{%
6262 \LWR@traceinfo{\LWR@htmlltagc !\detokenize{#1}!}%
6263 \begingroup%
6264 \LWR@hook@processingtags%
6265 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6266 \protect\LWR@origtextless%
6267 \LWR@isolate{#1}%
6268 \protect\LWR@origtextgreater%
6269 \endgroup%
6270 }
```

\LWR@spanwarnformat {*object*}

Warns if the given object is used inside a span.

```
6271 \newcommand*{\LWR@spanwarnformat}[1]{%
6272 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6273 \PackageWarning{lwarf}{%
6274 A #1 is being used inside a span.\MessageBreak
6275 Formatting may be lost,%
6276 }%
6277 }{%
6278 }
```

\LWR@spanwarninvalid {*object*}

Warns if the given object is used inside a span.

```
6279 \newcommand*{\LWR@spanwarninvalid}[1]{%
6280 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
6281 \PackageWarning{lwarf}{%
6282 A #1 is being used inside a span.\MessageBreak
6283 This generates invalid HTML,%
```

```

6284 }%
6285 }{ }%
6286 }

```

Env LWR@nestspan Disable `minipage`, `\parbox`, and `HTML <div>`s inside a `<span>`.

- ⚠ `\begin{LWR@nestspan}` must follow the opening `<span>` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
- ⚠ `\end{LWR@nestspan}` must follow the `</span>` or a `<p>` may appear inside the span.

```

6287 \newcommand*{\LWR@nestspanitem}{%
6288 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
6289 \LWR@origitem%
6290 }
6291
6292 \newenvironment*{\LWR@nestspan}{%
6293 {%
6294 \LWR@traceinfo{\LWR@nestspan starting}%
6295 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
6296 {%
6297 \LWR@traceinfo{\LWR@nestspan: inside a lateximage}%
6298 }%
6299 {%
6300 \LWR@traceinfo{\LWR@nestspan: NOT inside a lateximage}%
6301 \addtocounter{\LWR@spandepth}{1}%
}

```

Nullify several objects inside the span:

```

6302 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{%
6303 {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6304 {}%
6305 \RenewDocumentEnvironment{BlockClass}{o m}{%
6306 {\LWR@spanwarnformat{multi-paragraph object}}%
6307 {}%
6308 \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}{%
6309 {\LWR@spanwarnformat{multi-paragraph object}}%
6310 {}%
6311 \renewcommand{\BlockClassSingle}[2]{%
6312 {\LWR@spanwarnformat{multi-paragraph object}}%
6313 ##2%
6314 }%
6315 \renewcommand{\LWR@forcenewpage}{}%
6316 \renewcommand{\LWR@liststart}{%
6317 \LetLtxMacro{\item}{\LWR@nestspanitem}%
6318 }%
6319 \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6320 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6321 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6322 }% not in a lateximage
6323 \LWR@traceinfo{\LWR@nestspan starting: done}%
6324 }% starting env
6325 {%
6326 \LWR@traceinfo{\LWR@nestspan ending}%
}

```

```

6327 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6328 { }%
6329 {\addtocounter{LWR@spandepth}{-1}}%
6330 \LWR@traceinfo{LWR@nestspan ending: done}%
6331 }
6332
6333 \AfterEndEnvironment{LWR@nestspan}{\global\let\par\LWR@closeparagraph}

\LWR@htmlspan {\langle tag\rangle} {\langle text\rangle}

```

- ⚠ \LWR@spandepth is used to ensure that paragraph tags are not generated inside a span.  
The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6334 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6335 \LWR@ensuredoingapar%
6336 \LWR@htmltagc{#1}%
6337 \begin{LWR@nestspan}%
6338 #2%
6339 \LWR@htmltagc{/#1}%
6340 \end{LWR@nestspan}%
6341 }

```

```

\LWR@htmlspanclass [\langle style\rangle] (\langle aria role\rangle) {\langle class\rangle} {\langle text\rangle}

6342 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6343 \LWR@traceinfo{LWR@htmlspanclass |#1|#2|#3|}%
6344 \LWR@ensuredoingapar%
6345 \ifblank{#2}{%
6346 {\LWR@subhtmlelementclass{span}[#1]{#3}}%
6347 {\LWR@subhtmlelementclass{span}[#1](#2){#3}}%
6348 \begin{LWR@nestspan}%
6349 #4%
6350 \LWR@htmltagc{/span}%
6351 \LWR@traceinfo{LWR@htmlspanclass done}%
6352 \end{LWR@nestspan}%
6353 }

```

\LWR@htmltag {\langle tag\rangle}

Print an HTML tag: <tag>

```

6354 \newcommand*{\LWR@htmltag}[1]{%
6355 % \LWR@traceinfo{LWR@htmltagb !\detokenize{#1}!}%
6356 \LWR@htmltagc{#1}%
6357 % \LWR@traceinfo{LWR@htmltagb: done}%
6358 }

```

## 52.6 Block tags and comments

In the following, \origttfamily breaks ligatures, which may not be used for HTML codes:

```
\LWR@htmlopencomment
\LWR@htmclosecomment
6359 \newcommand*{\LWR@htmlopencomment}{%
6360 {%
6361 % \LWR@traceinfo{\LWR@htmlopencomment}%
6362 \begingroup%
6363 \LWR@hook@processingtags%
6364 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6365 \LWR@print@mbbox{\LWR@origtextless{}!-/-}%
6366 \endgroup%
6367 }%
6368 }
6369
6370 \newcommand*{\LWR@htmclosecomment}{%
6371 {%
6372 % \LWR@traceinfo{\LWR@htmclosecomment}%
6373 \begingroup%
6374 \LWR@hook@processingtags%
6375 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6376 \LWR@print@mbbox{-/-\LWR@origtextgreater}%
6377 \endgroup%
6378 }%
6379 }
```

\LWR@htmlcomment {<*comment*>}

```
6380 \newcommand{\LWR@htmlcomment}[1]{%
6381 \ifmmode%
6382 \else%
6383 \LWR@htmlopencomment{}%
6384 {%
6385 \LWR@print@normalfont%
6386 \LWR@origttfamily% break ligatures
6387 #1%
6388 }%
6389 \LWR@htmclosecomment{}%
6390 \fi%
6391 }
```

\LWR@htmlblockcomment {<*comment*>}

```
6392 \newcommand{\LWR@htmlblockcomment}[1]
6393 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}
```

\LWR@htmlblocktag {<*tag*>} print a stand-alone HTML tag

```
6394 \newcommand*{\LWR@htmlblocktag}[1]{%
6395 \LWR@stoppars%
6396 \LWR@htmtag{#1}%
6397 \LWR@startpars%
6398 }
```

## 52.7 Div class and element class

```
\LWR@subhtmlelementclass {<element>} [<style>] (<aria role>) {<class>}
```

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```
6399 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} D(){} m}{%
6400 \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!#4!}%
6401 \ifblank{#2}%
6402 {%
6403 \LWR@htmlltag{%
6404 #1%
6405 \ifblank{#3}{{ role=\textquotedbl#3\textquotedbl}% spaces
6406 \ifblank{#4}{{ class=\textquotedbl#4\textquotedbl}% spaces
6407 }%
6408 }%
6409 {%
6410 \LWR@htmlltag{%
6411 #1\LWR@indentHTML%
6412 \ifblank{#3}{{role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6413 \ifblank{#4}{{class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6414 style=\textquotedbl#2\textquotedbl\LWR@newline%
6415 }%
6416 }%
6417 \LWR@traceinfo{\LWR@subhtmlelementclass done}%
6418 }
```

```
\LWR@htmlelementclass {<element>} [<style>] {<class>}
```

```
6419 \NewDocumentCommand{\LWR@htmlelementclass}{m o D(){} m}{%
6420 \LWR@stoppars%
6421 \LWR@forceemptyline%
6422 \ifblank{#3}%
6423 {\LWR@subhtmlelementclass{#1}[#2]{#4}}%
6424 {\LWR@subhtmlelementclass{#1}[#2](#3){#4}}%
6425 \LWR@startpars%
6426 }
```

```
\LWR@htmlelementclassend {<element>} {<class>}
```

```
6427 \newcommand*{\LWR@htmlelementclassend}[2]{%
6428 \LWR@stoppars%
6429 \LWR@htmlltag{/#1}%
6430 \ifbool{HTMLDebugComments}{%
6431 \LWR@htmlcomment{End of #1 '#2'}%
6432 }{%
6433 \LWR@startpars%
6434 }}
```

```
\LWR@htmldivclass [<style>] (<aria role>) {<class>}

6435 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6436 \ifblank{#2}%
6437 {\LWR@htmlelementclass{div}[#1]{#3}}%
6438 {\LWR@htmlelementclass{div}[#1](#2){#3}}%
6439 }

\LWR@htmldivclassend {<class>}

6440 \newcommand*{\LWR@htmldivclassend}[1]{%
6441 \LWR@htmlelementclassend{div}{#1}}%
6442 }
```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```
\LWR@htmlelementclassline {<element>} [<style>] {<class>} {<text>}

6443 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
6444 \LWR@stoppars
6445 \LWR@forceemptyline%
6446 \LWR@subhtmlelementclass{#1}[#2]{#3}%
6447 #4%
6448 \LWR@htmltag{/#1}
6449 \LWR@startpars
6450 }
```

## 52.9 HTML5 semantic elements

```
\LWR@htmlelement {<element>}

6451 \newcommand*{\LWR@htmlelement}[1]{%
6452 \LWR@htmlblocktag{#1}}%
6453

\LWR@htmlelementend {<element>}

6454 \newcommand*{\LWR@htmlelementend}[1]{%
6455 \LWR@stoppars
6456 \LWR@htmltag{/#1}
6457 \LWR@startpars
6458 }
6459
6460 \end{warpHTML}
```

## 52.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with css.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section 95.

`Env BlockClass [<style>] (<aria role>) {<class>}` High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

**for PRINT output:** 6461 \begin{warpprint}  
6462 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}  
6463 \end{warpprint}

**for HTML output:** 6464 \begin{warpHTML}  
6465  
6466 \NewDocumentEnvironment{LWR@print@BlockClass}{o D(){} m}{}%  
6467  
6468 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o D(){} m}{}%  
6469 {\LWR@htmldivclass[#1](#2){#3}}%  
6470 {\LWR@htmldivclassend[#3]}  
6471  
6472 \LWR@formattedenv{BlockClass}  
6473 \end{warpHTML}

\BlockClassSingle {<class>} {<text>} A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6474 \begin{warpall}  
6475 \newcommand{\BlockClassSingle}[2]{#2}  
6476 \end{warpall}

**for HTML output:** 6477 \begin{warpHTML}  
6478 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%  
6479 \LWR@htmlelementclassline{div}{#1}{#2}}%  
6480 }  
6481  
6482 \LWR@formatted{BlockClassSingle}  
6483 \end{warpHTML}

\InlineClass (<WP style>) [<style>] {<class>} {<text>}

High-level interface for inline span classes.

(<WP style>) is css styling to add when formatting for a word processor import.

[<style>] is the css styling to add when not formatting for a word processor.

**for PRINT output:** 6484 \begin{warpprint}  
6485 \NewDocumentCommand{\InlineClass}{D{(){}{}} o m +m}{#4}%  
6486 \end{warpprint}

```

for HTML output: 6487 \begin{warpHTML}
6488 \NewDocumentCommand{\LWR@print@InlineClass}{D{(){}{}}{} o m +m}{#4}%
6489
6490 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{(){}{}}{} o m +m}{%
6491 \LWR@traceinfo{\LWR@HTML@InlineClass #3}%
6492 \ifbool{FormatWP}{%
6493 \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}%
6494 \LWR@htmlspanclass[#1]{#3}{#4}%
6495 }{%
6496 \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}%
6497 \LWR@htmlspanclass[#2]{#3}{#4}%
6498 }%
6499 \LWR@traceinfo{\LWR@HTML@InlineClass: done}%
6500 }
6501
6502 \LWR@formatted{InlineClass}
6503 \end{warpHTML}

```

**Env** `\LWR@BlockClassWP` {*WPstyle*} {*HTMLstyle*} (*aria role*) {*class*} Low-level interface for <div> classes with an automatic float ID. These are often used when `\ifbool{FormatWP}`.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```

for PRINT output: 6504 \begin{warpprint}
6505 \NewDocumentEnvironment{\LWR@BlockClassWP}{m m D(){} m}{}{%
6506 \end{warpprint}

```

```

for HTML output: 6507 \begin{warpHTML}
6508 \NewDocumentEnvironment{\LWR@print@\LWR@BlockClassWP}{m m D(){} m}{}{%
6509
6510 \NewDocumentEnvironment{\LWR@HTML@\LWR@BlockClassWP}{m m D(){} m}{}{%
6511 }%
6512 \LWR@stoppars%
6513 \ifbool{FormatWP}{%
6514 }{%
6515 \addtocounter{\LWR@thisautoidWP}{1}%
6516
6517 \LWR@htmllag{%
6518 div class=\textquotedbl#4\textquotedbl \% space
6519 id=\textquotedbl%
6520 \LWR@print@mbox{autoidWP-\arabic{\LWR@thisautoidWP}}%
6521 \textquotedbl%
6522 \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6523 \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6524 }%
6525 }% FormatWP
6526 \ifbool{not FormatWP}{%
6527 \LWR@htmllag{%
6528 div class=\textquotedbl#4\textquotedbl%
6529 \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6530 \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6531 }%
6532 \LWR@startpars%

```

---

```

6533 }
6534 {\LWR@htmldivclassend{#4}}
6535
6536 \LWR@formattedenv{\LWR@BlockClassWP}
6537 \end{warpHTML}
```

## 52.11 Closing HTML tags

**for HTML output:** 6538 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6539 \newcommand*{\LWR@printclosebook}
6540 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6541 \newcommand*{\LWR@printclosepart}
6542 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6543 \newcommand*{\LWR@printclosechapter}
6544 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6545 \newcommand*{\LWR@printclosesection}
6546 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6547 \newcommand*{\LWR@printclosesubsection}
6548 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6549 \newcommand*{\LWR@printclosesubsubsection}
6550 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6551 \newcommand*{\LWR@printcloseparagraph}
6552 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6553 \newcommand*{\LWR@printclosesubparagraph}
6554 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}
```

Lists require closing HTML tags:

```

6555 \newcommand*{\LWR@printcloselistitem}
6556 {\LWR@htmlltag{/li}}
6557 \newcommand*{\LWR@printclosedescitem}
6558 {\LWR@htmlltag{/dd}}
6559 \newcommand*{\LWR@printcloseitemize}
6560 {\LWR@htmlltag{/ul}}
6561 \newcommand*{\LWR@printcloseenumerate}
6562 {\LWR@htmlltag{/ol}}
6563 \newcommand*{\LWR@printclosedescription}
6564 {\LWR@htmlltag{/dl}}
```

6565 \end{warpHTML}

## 53 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 54 has high-level commands which allow paragraph-tag generation to start/stop. Even

when allowed (`\LWR@doingstartpars`), tags are not generated until a L<sup>A</sup>T<sub>E</sub>X paragraph is being used (`\LWR@doingapar`). `\LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `\LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

**for HTML output:** 6566 `\begin{warpHTML}`

Ctr `\LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```
6567 \newcounter{\LWR@spandepth}
6568 \setcounter{\LWR@spandepth}{0}
```

Bool `\LWR@doingstartpars` Tells whether paragraphs may be generated.

```
6569 \newbool{\LWR@doingstartpars}
6570 \boolfalse{\LWR@doingstartpars}
```

Bool `\LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```
6571 \newbool{\LWR@doingapar}
6572 \global\boolfalse{\LWR@doingapar}
```

Bool `\LWR@algocf@dopars` Tells whether `algorithm2e` has patched paragraph handling using `\everypar`. If so, the open paragraph tags are generated by `algorithm2e`'s `\algocf@everypar` instead of `\LWR@openparagraph`.

```
6573 \newbool{\LWR@algocf@dopars}
6574 \boolfalse{\LWR@algocf@dopars}
```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```
6575 \def\PN@parnotes@auto{}%
```

`\LWR@ensuredoingapar` These were different in older versions of `l warp`, but are now the same thing.

`\LWR@openparagraph`

```
6576 \newcommand*{\LWR@openparagraph}%
6577 {}%
```

See if paragraph handling is enabled:

```
6578 \ifbool{\LWR@doingstartpars}%
6579 {}% handling pars
```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```
6580 \ifboolexpr{
6581 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6582 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
6583 }% nested par tags?
```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```
6584 {}% no nested par tags
```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```
6585 {}% yes nest par tags
6586 \ifbool{LWR@doingapar}{}{%
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6587 \PN@parnotes@auto%
```

Set flag before creating the tag, so that the tag itself does not trigger a new paragraph:

```
6588 \global\booltrue{LWR@doingapar}%
```

The opening paragraph tag. Do not create tag if doing `algorithm2e` handling instead:

```
6589 \ifbool{LWR@algocf@dopars}{}{%
6590 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6591 }
6592 }%
```

At the endof each paragraph, generate closing tag and do regular /par stuff. (Attempting to use the `everyhook cr` hook for `\LWR@closeparagraph` does not work well.)

```
6593 \let\par\LWR@closeparagraph%
6594 }% end of yes nest par tags
6595 }% end of handling pars
6596 {}% not handling pars
6597 }
6598
6599 \let\LWR@ensuredoingapar\LWR@openparagraph
```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a `lateximage`, and not in tabular metadata.  
Factored from `\LWR@closeparagraph`.

```
6600 \newcommand*{\LWR@closeparagraph@br}{%
6601 {}%
6602 \ifboolexpr{%
6603 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6604 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6605 not bool {LWR@intabularmetadata}
6606 }%
6607 {}%
6608 \unskip\LWR@htmlltagc{br }%
6609 }%
6610 {}%
6611 }
```

```
\LWR@closeparagraph
```

```
6612 \newcommand*\LWR@closeparagraph{%
6613 {%
6614 % \LWR@traceinfo{\LWR@closeparagraph}%
}
```

See if paragraph handling is enabled:

```
6615 \ifbool{\LWR@doingapar}{%
```

If currently in paragraph mode:

```
6616 {%
 \ifbool{%
 \LWR@do
```

See if already started a `lateximage` or a `<span>`:

```
6617 \ifboolexpr{%
6618 test {\ifnumcomp{\value{\LWR@lateximagedepth}}>}{0} or
6619 test {\ifnumcomp{\value{\LWR@spandepth}}>}{0}%
6620 }%
```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```
6621 {%
 \ifboolexpr{%
 \LWR@closeparagraph@br%
 }%
}
```

If have not already started a `lateximage` or a `<span>`:

```
6624 {%
 \ifboolexpr{%
 \LWR@do
```

Print a closing tag and some extra vertical space.

(The fill seems to be required to force the `caption` package to create flush left caption text in the HTML.)

```
6625 \fill\hskip\fill\hskip*\fill%
6626 \leavevmode\LWR@orignewline%
6627 \LWR@htmltagc{/LWR@tagregularparagraph}%
```

No longer doing a paragraph:

```
6628 \global\boolfalse{\LWR@doingapar}%

```

Disable the special `minipage` & `\hspace` interaction until a new `minipage` is found:

```
6629 \global\boolfalse{\LWR@minipagethispar}%

```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6630 \PN@parnotes@auto%
```

After creating par notes, not yet started a new paragraph:

```
6631 \global\boolfalse{LWR@doingapar}%
6632 }% end of yes nest par tags
6633 }% end of handling pars
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6634 {%
6635 \LWR@closeparagraph@br%
6636 }% not handling pars
```

In most cases, finish with a L<sup>A</sup>T<sub>E</sub>X \par, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
6637 \ifboolexpr{%
6638 not bool {LWR@doingapar} and
6639 test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6640 test {
6641 \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6642 } and
6643 bool {LWR@intabularmetadata} and
6644 not bool {LWR@tableparcell} and
6645 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6646 }%
6647 {%
6648 \LWR@getmynexttoken%
6649 }{%
6650 \LWR@origpar%
6651 }%
6652 }

6653 \end{warpHTML}
```

## 54 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 53 has the commands which actually generate the tags.

The everyhook package is used to generate the opening paragraph tags. The closing tags are generated by \par.

**for HTML output:** 6654 \begin{warpHTML}

\LWR@startpars Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6655 \newcommand*{\LWR@startpars}%
6656 {%
6657 % \LWR@traceinfo{\LWR@startpars}%

```

Ignore if inside a `lateximage` or `<span>`:

```
6658 \ifboolexpr{
6659 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6660 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6661 }%
6662 {}%
6663 {}%
```

See if currently handling `HTML` paragraphs:

```
6664 \ifbool{LWR@doingstartpars}{%
```

If already in paragraph mode, do nothing.

```
6665 {}%
```

If not currently in paragraph mode:

```
6666 {}%
```

At the start of each paragraph, generate an opening tag:

```
6667 \ClearPreHook{par}{%
6668 \PushPreHook{par}{\LWR@openparagraph}{%}
```

At the end of each paragraph, generate closing tag then do regular `/par` actions:

```
6669 \let\par\LWR@closeparagraph
6670 {}% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6672 \global\setbool{LWR@doingstartpars}{true}{%}
```

No `<par>` tag yet to undo:

```
6673 \global\boolfalse{LWR@doingapar}{%
6674 }% nestspan
6675 % \LWR@traceinfo{LWR@startpars: done}{%
6676 }
```

`\LWR@stopars` Stop handling `HTML` paragraphs. Any currently open `HTML` paragraph is closed, and no more will be opened.

```
6677 \newcommand*{\LWR@stopars}{%
6678 {}%
```

Ignore if inside a `lateximage` or `<span>`:

```
6679 \ifboolexpr{
```

```

6680 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0} or
6681 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6682 }%
6683 { }%
6684 { }%

```

See if currently handling HTML paragraphs:

```
6685 \ifbool{LWR@doingapar}{%
```

if currently in an HTML paragraph:

```
6686 { }%
```

Print a closing tag:

```

6687 \leavevmode\LWR@orignewline%
6688 \LWR@htmlltagc{/ \LWR@tagregularparagraph}%
6689 \LWR@orignewline%

```

No longer have an open HTML paragraph:

```
6690 \global\boolfalse{LWR@doingapar}{}
```

Disable the special `\minipage` & `\hspace` interaction until a new minipage is found:

```

6691 \global\boolfalse{LWR@minipagethispar}{}
6692 }%

```

If was not in an HTML paragraph:

```
6693 { }%
```

See if currently allowing HTML paragraphs:

```
6694 \ifbool{LWR@doingstartpars}{%
```

If so: clear the par hook to no longer catch paragraphs:

```
6695 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6696 { }%
```

No longer in paragraph mode:

```
6697 \global\setbool{LWR@doingstartpars}{false}{}
```

No `<p>` tag to undo:

```

6698 \global\boolfalse{LWR@doingapar}{}
6699 }% nestspan
6700 }%

```

```
6701 \end{warpHTML}
```

## 55 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed  
\AtBeginDocument here.

for HTML output: 6702 \begin{warpHTML}

```
6703 \AtBeginDocument{
6704 \def\@afterindentfalse{\let\if@afterindent\iffalse}
6705 \@afterindentfalse
6706 }
6707 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6708 \end{warpHTML}
```

## 56 Page headers and footers

for HTML & PRINT: 6709 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
6710 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6711 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6712 \newcommand{\LWR@pagetop}{} % for all other pages
6713 \newcommand{\LWR@pagebottom}{}

\HTMLFirstPageTop {<text and logos>}
```

```
6714 \newcommand{\HTMLFirstPageTop}[1]{%
6715 \renewcommand{\LWR@firstpagetop}{#1}%
6716 }
```

\HTMLFirstPageBottom {<text and logos>}

```
6717 \newcommand{\HTMLFirstPageBottom}[1]{%
6718 \renewcommand{\LWR@firstpagebottom}{#1}%
6719 }
```

\HTMLPageTop {<text and logos>}

```
6720 \newcommand{\HTMLPageTop}[1]{%
6721 \renewcommand{\LWR@pagetop}{#1}%
6722 }
```

---

```
\HTMLPageBottom {<text and logos>}

6723 \newcommand{\HTMLPageBottom}[1]{%
6724 \renewcommand{\LWR@pagebottom}{#1}%
6725 }

6726 \end{warpall}
```

## 57 CSS

**for HTML output:** 6727 \begin{warpHTML}

\LWR@currentcss The css filename to use. This may be changed mid-document using \CSSFilename, allowing different css files to be used for different sections of the document.

```
6728 \newcommand*{\LWR@currentcss}{lwarp.css}
```

\CSSFilename {<new-css-filename.css>} Assigns the css file to be used by the following HTML pages.

```
6729 \newcommand*{\CSSFilename}[1]{%
6730 \renewcommand*{\LWR@currentcss}{#1}%
6731 \@onelvel@sanitize\LWR@currentcss%
6732 }
6733
6734 \end{warpHTML}
```

**for PRINT output:** 6735 \begin{warpprint}
6736 \newcommand\*{\CSSFilename}[1]{}
6737 \end{warpprint}

## 58 MATHJAX script

**for HTML output:** 6738 \begin{warpHTML}

Default: lwarp\_mathjax.txt

\LWR@mathjaxfilename The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using \MathJaxFilename, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
6739 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

\MathJaxFilename {<filename>} Assigns the MATHJAX script file to be used by the following HTML pages.

```

6740 \newcommand*{\MathJaxFilename}[1]{%
6741 \renewcommand*{\LWR@mathjaxfilename}{#1}%
6742 @onelevel@sanitize\LWR@mathjaxfilename%
6743 }
6744
6745 \end{warpHTML}

```

**for PRINT output:** 6746 \begin{warpprint}

```

6747 \newcommand*{\MathJaxFilename}[1]{}
6748 \end{warpprint}

```

## 59 Title, HTML meta author, HTML meta description

**for HTML output:** 6749 \begin{warpHTML}

\title {\langle title\rangle} Modified to remember \thetitle, which is used to set the HTML page titles.

```

6750 \let\LWR@origtitle\title
6751
6752 \renewcommand*{\title}[1]{%
6753 \LWR@origtitle{#1}%
6754 \begingroup%
6755 \renewcommand{\thanks}[1]{}%
6756 \protected@xdef\thetitle{#1}%
6757 \endgroup%
6758 }

```

```
6759 \end{warpHTML}
```

**for HTML & PRINT:** 6760 \begin{warpall}

\HTMLTitle {\langle Titlename\rangle} The Title to place into an HTML meta tag. The default is to use the document \title's setting.

```

6761 \providecommand{\thetitle}{\BaseJobname}
6762
6763 \newcommand{\theHTMLTitle}{\thetitle}
6764
6765 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}

```

\HTMLAuthor {\langle authorname\rangle} The author to place into an HTML meta tag. If none given, the default is \theauthor, which is empty unless the titling package is used.

```

6766 \providecommand{\theauthor}{}
6767
6768 \newcommand{\theHTMLAuthor}{\theauthor}
6769
6770 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}

```

This is placed inside an `HTML` meta tag at the start of each file. This may be changed mid-document using `\HTMLDescription`, allowing different `HTML` descriptions to be used for different sections of the document.

-  **HTML author** Do not use double quotes, and do not exceed 150 characters.

`\HTMLDescription {<New html meta description.>}` Assigns the `HTML` file's description meta tag.

```
6771 \newcommand{\LWR@currentHTMLDescription}{}
6772
6773 \newcommand{\HTMLDescription}[1]{%
6774 \renewcommand{\LWR@currentHTMLDescription}{#1}
6775 }
6776
6777 \end{warpall}
```

## 60 Footnotes

`lwarp` uses native `LATEX` footnote code, although with its own `\box` to avoid the `LATEX` output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by `HTML` page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for `sidenotes`. For `endnotes`:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc` `stable` option is emulated by `lwarp`.

-  **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between

print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and \protect the \footnote:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

**memoir with footmisc** If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handled differently.

## 60.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L<sup>A</sup>T<sub>E</sub>X box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 60.4 for the implementation.

## 60.2 Minipage footnotes

See section 60.5 for how minipage footnotes are gathered. See section 94.4 for how minipage footnotes are placed into the document.

## 60.3 Titlepage thanks

See section 69.7 for titlepage footnotes.

## 60.4 Regular page footnote implementation

**for HTML & PRINT:** 6778 `\begin{warpall}`

**Ctr** `FootnoteDepth` Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`. The default of 3 places footnotes before each `\subsubsection` or higher. See table 12 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

---

```
6779 \newcounter{FootnoteDepth}
6780 \setcounter{FootnoteDepth}{3}
```

**Ctr footnoteReset** If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `\FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `\footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `\perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the `\footnote` or `\footnote<suffix>` counters.

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
6781 \newcounter{footnoteReset}
6782 \setcounter{footnoteReset}{0}

6783 \end{warpall}
```

**for HTML output:** 6784 `\begin{warpHTML}`

Required for footnotes inside `description` or `amsthm` square braces:

```
6785 \AtBeginDocument{
6786 \robustify{\footnote}
6787 \robustify{\footnotemark}
6788 }
```

**\LWR@footnotebox** Patch `LATEX` footnotes to use a new `\box` instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `\textrimage`, which is on its own new page.

```
6789 \newbox{\LWR@footnotebox}
```

**Bool LWR@spewingnotes** Used with the `footnote` package to suppress paragraph tags before and after `\spewnotes`.

```
6790 \newbool{\LWR@spewingnotes} % For the footnote package.
```

Much of the following has unneeded print-mode formatting removed.

```
\@makefntext {\langle text\rangle}
```

```
6791 \long\def\@makefntext#1{\@thefnmark\text{\#1}}
```

```
\@makefnmark
```

```
6792 \def\@makefnmark{%
6793 \@thefnmark%
6794 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during `HTML` output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

```
\LWR@@footnotetext {\text} {\footnote box name}
```

Factored to allow multiple footnote boxes for `manyfoot`.

```
6795 \long\def\LWR@footnotetext#1#2{%
6796 \LWR@traceinfo{\LWR@footnotetext}}%
```

Perhaps generate an `autopage` in the text to link a citation backreference closer to its usage.

```
6797 \LWR@newautopagelabel{page}%
6798 \LWR@ensuredoingapar%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

```
6799 \begingroup%
6800 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
6801 \global\setbox\csname #2\endcsname=\vbox{%
6802 \unvbox\csname #2\endcsname%
```

Remember the footnote number for `\ref`:

```
6803 \protected@edef\@currentlabel{%
6804 \csname p@footnote\endcsname\@thefnmark%
6805 }% @currentlabel
```

Open a group:

```
6806 \color@begingroup%
```

Disable CJK `xpinyin` while generating footnotes.

```
6807 \LWR@disablepinyin%
```

Use `HTML` superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in `HTML`:

```
6808 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6809 \ifbool{LWR@spewingnotes}{}{%
6810 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6811 }%
```

Append the footnote to the list:

```
6812 \@makefntext{#1}%
```

Closing paragraph tag:

```
6813 \ifbool{LWR@spewingnotes}{}{%
6814 \LWR@origtilde\LWR@orignewline%
6815 \LWR@htmlltagc{/}\LWR@tagregularparagraph}%
6816 \LWR@orignewline%
6817 }%
```

Close the group:

```
6818 \color@endgroup%
6819 }% vbox
6820 \endgroup%
6821 }%
```

`\LWR@footnotetext {<text>}`

```
6822 \long\def\LWR@footnotetext#1{\LWR@@footnotetext{#1}{\LWR@footnotebox}}%
```

`\@footnotetext {<text>}`

```
6823 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 60.5 Minipage footnote implementation

Patch L<sup>A</sup>T<sub>E</sub>X minipage footnotes to use a new `\box` instead of an insert for lwarp minipage footnotes. This avoids having the original `\@mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6824 \newbox\LWR@mpfootnotes
```

`\@mpfootnotetext {<text>}`

```
6825 \long\def\@mpfootnotetext#1{%
6826 \LWR@traceinfo{@mpfootnotetext}%
6827 \LWR@ensuredoingapar%
6828 \global\setbox\LWR@mpfootnotes\vbox{%
6829 \unvbox\LWR@mpfootnotes%
6830 \reset@font\footnotesize%
6831 \hsize\columnwidth%
```

---

```

6832 \@parboxrestore%
6833 \protected@edef@\currentlabel%
6834 {\csname p@mpfootnote\endcsname\@thefnmark}%
6835 \color@begingroup%

```

Add paragraph tag:

```

6836 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6837 \@makefntext{%
6838 \ignorespaces#1%
6839 }%

```

Add the closing paragraph tag:

```

6840 \leavevmode\LWR@orignewline%
6841 \LWR@htmlltagc{/}\LWR@tagregularparagraph}%
6842 \color@endgroup%
6843 }% vbox

```

Paragraph handling:

```

6844 \LWR@ensuredoingapar%
6845 \LWR@traceinfo{@mpfootnotetext: done}%
6846 }

```

\thempfootnote Redefined to remove the \itshape, which caused an obscure compiling error in some situations.

```

6847 \AtBeginDocument{%
6848 \def\thempfootnote{\@alph\c@mpfootnote}%
6849 }

```

## 60.6 Printing pending footnotes

```

\LWR@@printpendingfootnotes {\langle footnote counter name\rangle}

6850 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6851 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6852 \LWR@forcenewpage
6853 \begin{BlockClass}{note}{footnotes}%

```

Create a new autopage in case citation back references occur inside the footnotes:

```

6854 \LWR@newautopagelabel{page}%

6855 \null
6856 \unvbox\csuse{LWR@#1box}
6857 \setbox\csuse{LWR@#1box}=\vbox{%

```

---

```

6858 \end{BlockClass}
6859 \ifltxcounter{#1Reset}{%
6860 \ifnumgreater{\value{#1Reset}}{0}{%
6861 \setcounter{#1}{\value{#1Reset}}%
6862 \addtocounter{#1}{-1}%
6863 }{}%
6864 }{}%
6865 \fi
6866 }

```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6867 \newcommand*{\LWR@printpendingfootnotes}{%
6868 \LWR@@printpendingfootnotes{footnote}%
6869 }

```

\LWR@maybeprintpendingfootnotes {*<depth>*} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6870 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6871 \ifboolexpr{%
6872 not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6873 bool{FormatEPUB} or
6874 bool{FormatWP}%
6875 }{}%
6876 {\LWR@printpendingfootnotes}%
6877 }{}%
6878 }

```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```

6879 \newcommand*{\LWR@printpendingmpfootnotes}{%
6880 \ifvoid\LWR@mpfootnotes\else
6881 \LWR@forcenewpage
6882 \begin{BlockClass}{note}{footnotes}%
6883 \null
6884 \unvbox\LWR@mpfootnotes
6885 \setbox\LWR@mpfootnotes=\vbox{%
6886 \end{BlockClass}%
6887 \fi
6888 }

```

```

6889 \end{warpHTML}

```

## 61 Marginpars

\marginpar [⟨left⟩] {⟨right⟩} \marginpar may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

\marginparBlock [*left*] [*right*] To include block-related macros, use \marginparBlock, which takes the same arguments but creates a <div> instead of a <span>. A line break will occur in the text where the \marginBlock occurs.

**for HTML output:** 6890 \begin{warpHTML}

```
\marginpar [left] [right]

6891 \renewcommand{\marginpar}[2][]{%
6892 \ifbool{FormatWP}{%
6893 {%
6894 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}(note){marginblock}%
6895 #2
6896 \end{LWR@BlockClassWP}%
6897 }%
6898 {%
6899 \LWR@htmlspanclass(note){marginpar}{#2}%
6900 }%
6901 }
```

\marginparBlock [*left*] [*right*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6902 \newcommand{\marginparBlock}[2][]{%
6903 \LWR@stoppars%
6904 \ifbool{FormatWP}{%
6905 {%
6906 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}(note){marginblock}%
6907 #2
6908 \end{LWR@BlockClassWP}%
6909 }{%
6910 \begin{BlockClass}[width:2in; float:right; margin:10pt](note){marginparblock}%
6911 #2
6912 \end{BlockClass}%
6913 }%
6914 \LWR@startpars%
6915 }
```

\reversemarginpar

```
6916 \renewcommand*{\reversemarginpar}{}{}
```

\normalmarginpar

```
6917 \renewcommand*{\normalmarginpar}{}{}
```

```
6918 \end{warpHTML}
```

**for PRINT output:** 6919 \begin{warpprint}

\marginparBlock [⟨left⟩] {⟨right⟩}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

6920 \LetLtxMacro\marginparBlock\marginpar

6921 \end{warpprint}

## 62 Tracking internal cross references

Cross references are generated using the PDF file's page number during L<sup>A</sup>T<sub>E</sub>X compilation. Internal labels are generated which include these page numbers in the label.

File \*\_html.aux A new entry in the \*\_html.aux file is used to help cross-references:

\newlabel{autopage-⟨nnn⟩}{⟨x⟩}{⟨y⟩}}

Ctr LWR@currentautosecpage Records the page number when the section was created. (If a math expression is included in the section name, and SVG math is used, the corresponding lateximage will cause the page number to change by the time the following autosec label is created, thus the initial page number is recorded here.) LWR@currentautosecfloatpage is updated more often than LWR@currentautosecpage.

6922 \newcounter{LWR@currentautosecpage}  
6923 \setcounter{LWR@currentautosecpage}{1}

Ctr LWR@currentautosecfloatpage The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than LWR@currentautosecpage, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as \label, citation backlinks, etc.

\LWRsetnextfloat is written with this and the autoid by the modified \addcontentsline just before each float's entry.

6924 \newcounter{LWR@currentautosecfloatpage}  
6925 \setcounter{LWR@currentautosecfloatpage}{1}

Ctr LWR@previousautopagelabel Remembers which autopage label was most recently generated. Used to avoid duplicates.

6926 \newcounter{LWR@previousautopagelabel}  
6927 \setcounter{LWR@previousautopagelabel}{-1}

\LWR@newautopagelabel {⟨pagenumber counter⟩}

---

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
6928 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
6929 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}%
6930 {}%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is LWR@currentautosecpage, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an SVG image, such as svg math. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
6931 {%
6932 \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
6933 \ifnumequal{\value{#1}}{\value{page}}%
6934 {}%
6935 {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
6936 \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6937 }%
6938 }
```

\LWR@null@newautopagelabel {*<pagenumber counter>*}

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
6939 \newcommand*{\LWR@null@newautopagelabel}[1]{}%
```

## 63 Splitting HTML files

- Files are split according to FileDepth and CombineHigherDepths.
- Filenames are sanitized by \LWR@filenamenoblanks.
- \LWR@newhtmlfile finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 6940 \begin{warpall}

Ctr FileDepth {*section depth*} determines how deeply to break into new HTML files, similar to tocdepth. The default of -5 produces one large HTML file.

```
6941 \newcounter{FileDepth}
6942 \setcounter{FileDepth}{-5}
```

Bool CombineHigherDepths Combile higher-level sections together into one file?

```
6943 \newbool{CombineHigherDepths}
6944 \booltrue{CombineHigherDepths}
```

\FilenameLimit Maximum length of the generated filenames.

```
6945 \newcommand*\{\FilenameLimit}{80}

6946 \end{warpall}
```

**for HTML output:** 6947 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

```
6948 \AtBeginDocument{
6949 \ifbool{FileSectionNames}{%
6950 {\newcommand*\{\LWR@thisfilename}{\HomeHTMLfilename}}
6951 {\newcommand*\{\LWR@thisfilename}{\emptyset}}
6952 }}
```

\LWR@thisnewfilename The filename being sanitized.

```
6953 \newcommand*\{\LWR@thisnewfilename}{}{}
```

\LWR@simplifyname \* {*expression*} Simplify \LWR@thisnewfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6954 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
6955 \IfBooleanTF{#1}{%
6956 \StrSubstitute{\LWR@thisnewfilename}{%
6957 {\detokenize{#2}}}{%
6958 {\detokenize{-}}[\LWR@thisnewfilename]}%
6959 }{
6960 \StrSubstitute{\LWR@thisnewfilename}{%
6961 {#2}}{
6962 {\detokenize{-}}[\LWR@thisnewfilename]}%
6963 }
6964 }
```

---

\LWR@simplifystyle User-defined filename simplifications. Redefine with \newcommand.

6965 \newcommand\*\{\LWR@simplifystyle\}{}{}

\FilenameSimplify \* {\i<phrase>} Assign a user-defined filename simplification. Appends to \LWR@simplifystyle.

```
6966 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6967 \IfBooleanTF{#1}{%
6968 \appto{\LWR@simplifystyle}{%
6969 \LWR@simplifyname*{#2}}%
6970 }%
6971 }{%
6972 \appto{\LWR@simplifystyle}{%
6973 \LWR@simplifyname{#2}}%
6974 }%
6975 }%
6976 }
```

\LWR@avoiddupfilenames Instructions for how to avoid duplicate filenames. This is used in a warning in \LWR@filenamenoblanks, and in an error in \LWR@newhtmlfile.

```
6977 \newcommand*\{\LWR@avoiddupfilenames\}{%
6978 To avoid duplicate filenames, use the optional\MessageBreak
6979 short Table of Contents entry:\MessageBreak
6980 \space\space\protect\section[Unique name, no math]{Name with math}%
6981 \MessageBreak
6982 or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6983 \space\space%
6984 \protect\section{\MessageBreak
6985 \space\space\space\space\protect\texorpdfstring\MessageBreak
6986 \space\space\space\space\space\space%
6987 {Name with math}{Unique name, no math}\MessageBreak
6988 \space\space}%
6989 }
```

\LWR@filenamenoblanks {\i<filename>}

Convert blanks into dashes, removes short words, store result in \LWR@thisfilename.

Also see \LWR@nullfonts for nullified macros.

```
6990 \newcommand*\{\LWR@filenamenoblanks\}[1]{%
6991 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
6992 \LWR@nullfonts%
6993 \renewcommand*\{\LWR@htmlltagc\}[1]{}%
6994 \edef\LWR@thisnewfilename{\#1}%
```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```

6995 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{\}%
6996 \LWR@simplifyname{_}
6997 \LWR@simplifyname{\#}
6998 \LWR@simplifyname{\textbackslash}
6999 \LWR@simplifyname{\protect}
7000 \LWR@simplifyname{\ }
7001 \LWR@simplifyname{\textless}
7002 \LWR@simplifyname{\textgreater}

7003 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%

```

Warn if there is dollar math in the section name:

```

7004 \ifbool{FileSectionNames}{%
7005 \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
7006 \PackageWarning{l warp}%
7007 {%
7008 This section name:\MessageBreak
7009 \space\space‘‘\detokenize\expandafter{\#1}’’\MessageBreak
7010 at the line number listed below,\MessageBreak
7011 is using $dollar-delimited math$,
7012 which generates\MessageBreak
7013 complicated file names. It is better to use\MessageBreak
7014 \space\space%
7015 \protect\section{Name with \protect\left(parenthesis math\protect\right)\}%
7016 \MessageBreak
7017 The math then will be removed from the file name.\MessageBreak
7018 \MessageBreak
7019 \LWR@avoiddupfilenames%
7020 \MessageBreak
7021 This section is found before or%
7022 }%
7023 }{}%
7024 }{}}

7025 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename!}%
7026 \fullexpandarg%

```

Convert spaces into hyphens:

```
7027 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```

7028 \LWR@simplifyname*{*}
7029 \LWR@simplifyname*{()}
7030 \LWR@simplifyname*{(){}}
7031 \LWR@simplifyname*{..}
7032 \LWR@simplifyname*{!}
7033 \LWR@simplifyname*{,}
7034 \LWR@simplifyname*{'}
7035 \LWR@simplifyname*{+}

```

```
7036 \LWR@simplifyname*/{/}
7037 \LWR@simplifyname*{:}
7038 \LWR@simplifyname*{;}
7039 \LWR@simplifyname*{=}
7040 \LWR@simplifyname*{?}
7041 \LWR@simplifyname*{@}
7042 \LWR@simplifyname*{^}
7043 \LWR@simplifyname*{&}
7044 \LWR@simplifyname*{"}
7045 \LWR@simplifyname*{<}
7046 \LWR@simplifyname*{>}

7047 \LWR@simplifyname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
7048 \StrSubstitute{\LWR@thisnewfilename}%
7049 {\LWRleftbrace}{\LWR@thisnewfilename}%
7050 \StrSubstitute{\LWR@thisnewfilename}%
7051 {\LWRrightbrace}{\LWR@thisnewfilename}%

7052 \LWR@simplifyname{\LWRpercent}
7053 \LWR@simplifyname{\LWRdollar}

7054 \LWR@simplifyname*{|}
7055 \LWR@simplifyname*{^}
7056 \LWR@simplifyname*{~}
7057 \LWR@simplifyname*{[]}
7058 \LWR@simplifyname*{[]}
7059 \LWR@simplifyname*{`}
```

Convert short words:

```
7060 \LWR@simplifyname*{-s-}
7061 \LWR@simplifyname*{-S-}
7062 \LWR@simplifyname*{-a-}
7063 \LWR@simplifyname*{-A-}
7064 \LWR@simplifyname*{-an-}
7065 \LWR@simplifyname*{-AN-}
7066 \LWR@simplifyname*{-to-}
7067 \LWR@simplifyname*{-TO-}
7068 \LWR@simplifyname*{-by-}
7069 \LWR@simplifyname*{-BY-}
7070 \LWR@simplifyname*{-of-}
7071 \LWR@simplifyname*{-OF-}
7072 \LWR@simplifyname*{-and-}
7073 \LWR@simplifyname*{-AND-}
7074 \LWR@simplifyname*{-for-}
7075 \LWR@simplifyname*{-FOR-}
7076 \LWR@simplifyname*{-the-}
7077 \LWR@simplifyname*{-THE-}
```

Convert custom words:

---

7078 \LWR@simplifycustom%

If PDF L<sup>A</sup>T<sub>E</sub>X and not utf8 encoding, don't try to convert emdash, endash:

```
7079 \ifPDFTeX% pdflatex or dvi latex
7080 \ifdefstring{\inputencodingname}{utf8}{%
7081 \LWR@simplifyname*{-}
7082 % emdash
7083 \LWR@simplifyname*{-}
7084 % endash
7085 }{}}%
7086 \else% not PDFTeX
7087 \LWR@simplifyname*{-}
7088 \LWR@simplifyname*{-}
7089 \fi%
```

Convert multiple hyphens:

```
7090 \LWR@simplifyname*{----}
7091 \LWR@simplifyname*{---}
7092 \LWR@simplifyname*{--}
7093 \LWR@simplifyname*{--}
```

If starts with a dash, remove the leading dash:

```
7094 \IfBeginWith{\LWR@thisfilename}{\detokenize{-}}{%
7095 \StrGobbleLeft{\LWR@thisfilename}{1}[\LWR@thisfilename]%
7096 }{}}%
```

If ends with a dash, remove the trailing dash:

```
7097 \IfEndWith{\LWR@thisfilename}{\detokenize{-}}{%
7098 \StrGobbleRight{\LWR@thisfilename}{1}[\LWR@thisfilename]%
7099 }{}}%
```

Limits the length of the filename:

```
7100 \StrLeft{\LWR@thisfilename}{\FilenameLimit}[\LWR@thisfilename]%
```

Return the global result:

```
7101 \global\let\LWR@thisfilename\LWR@thisfilename%
7102 \endgroup%
7103 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
7104 }
```

### 63.1 Sanitizing expressions for HTML

Math expressions are converted to `lateximages`, and some math environments may contain &, <, or >, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

```
\LWR@replacestrings {⟨search⟩} {⟨replace⟩}
```

Replaces strings inside \tmpb.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```
7105 \bgroup
7106 \catcode`!=3 \catcode`?=3
7107
7108 \long\gdef\LWR@replacestrings@addto#1#2{%
7109 \expandafter\def\expandafter#1\expandafter{#1#2}%
7110 }
7111
7112 \gdef\LWR@replacestrings#1#2{%
7113 \long\def\LWR@replacestringsA##1{\def\tmpb{##1}\LWR@replacestringsB}%
7114 \long\def\LWR@replacestringsB##1{%
7115 \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{##1}%
7116 \expandafter\LWR@replacestringsB\fi%
7117 }%
7118 \expandafter\improvedversion<May 2016> inspired
7119 \long\def\LWR@replacestringsA##1{%
7120 \def\tmpb{##1}%
7121 }\expandafter\improvedversion<May 2016> inspired
7122 }\expandafter\improvedversion<May 2016> inspired
7123 \egroup
```

`LWR@MathJax@silentquotes` Bool If true, double quotes (" and ") are removed (used for `mathspec`). This unfortunately includes double quotes used inside \text with MATHJAX. If false, double quotes are escaped.

```
7124 \newbool{LWR@MathJax@silentquotes}
7125 \boolfalse{LWR@MathJax@silentquotes}
```

`\LWR@subHTMLsanitize` \LWR@strresult must first be set by \LWR@HTMLsanitize, \LWR@HTMLsanitizeexpand, or \CustomizeMathJax.

```
7126 \catcode`\#=12
7127 \catcode`\&=12
7128 \newcommand{\LWR@subHTMLsanitize}{%
```

The &, <, and > may be interpreted by the browser:

```
7129 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7130 \LWR@replacestrings{&}{&}%
7131 \LWR@replacestrings{<}{<}%
7132 \LWR@replacestrings{>}{>}%
```

The quotes occasionally causes problems. For `mathspec`, also allow neutralization of \" and the " character.

```
7133 \ifbool{LWR@MathJax@silentquotes}{%
```

---

```

7135 \expandafter\LWR@replacedstrings\expandafter{\LWRbackslash"}{}%
7136 \LWR@replacedstrings"{}{}%
7137 }%
7138 {\LWR@replacedstrings{"}{"}%
7139 \LWR@replacedstrings{'}{'}%
7140 \LWR@replacedstrings{'}{'}%

```

MATHJAX allows expressions to be defined with `\newcommand`. These expressions would appear with ## for each argument, and each must be changed to a single #. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```

7141 \LWR@replacedstrings{##}{#}%
7142 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7143 }
7144 \catcode`\#=6
7145 \catcode`\&=4

```

`\LWR@HTMLsanitize {⟨text⟩}`

Prints the sanitized text.

```
7146 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French **babel** character handling, and fully expand the strings:

```

7147 \begingroup%
7148 \LWR@hook@processingtags%
7149 \edef\LWR@strresult{\detokenize{#1}}%
7150 \LWR@subHTMLsanitize%
7151 \LWR@strresult%
7152 \endgroup%
7153 }

```

`\LWR@HTMLsanitizeexpand {⟨text⟩}`

This version expands the argument before sanitizing it. This is only used for adding math to MATHJAX expressions or `lateximage alt` tags.

```

7154 \edef\LWR@beginleftbrace{\begin \LWRleftbrace}
7155 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7156 \edef\LWR@beginleftbrace{\begin\LWRleftbrace}
7157 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7158
7159 \edef\LWR@endrightbrace{\end \LWRrightbrace}
7160 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7161 \edef\LWR@endrightbrace{\end\LWRrightbrace}
7162 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7163
7164 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%

```

Cancel French **babel** character handling, and fully expand the strings:

```
7165 \begingroup%
7166 \LWR@hook@processingtags%
```

The difference between this and `\LWR@HTMLsanitize` (without “expand”) is the following `\expandafter`:

```
7167 \edef\LWR@strresult{\detokenize\expandafter{\#1}}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```
7168 \protect\StrSubstitute{\LWR@strresult}%
7169 {\LWR@beginospaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
7170 \protect\StrSubstitute{\LWR@strresult}%
7171 {\LWR@endspacerrightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

7172 \LWR@subHTMLsanitize%
7173 \LWR@strresult%
7174 \endgroup%
7175 }
```

## 63.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
7176 \newcommand*{\LWR@customizedMathJax}{}%
```

`Bool` Used to issue only one warning about using a `\CustomizeMathJax` per macro.

```
LWR@warnedcustomizemathjax
7177 \newbool{\LWR@warnedcustomizemathjax}
7178 \boolfalse{\LWR@warnedcustomizemathjax}
```

`\LWR@subcustomizedmathjax` {*macro definition*}

```
7179 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7180 \begingroup%
7181 \LWR@hook@processingtags%
7182 \edef\LWR@strresult{\detokenize{\#1}}%
7183 \LWR@subHTMLsanitize%
7184 \xdef\LWR@customizedMathJax{%
7185 \LWR@customizedMathJax%
7186 \LWR@strresult%
7187 }%
7188 \endgroup%
7189 }
7190 \onlypreamble\LWR@subcustomizedmathjax
```

`\CustomizeMathJax` {*macro definition*}

A warning is issued if a very long argument is given.

```

7191 \newcommand*{\CustomizeMathJax}[1]{%
7192 \ifboolexpr{LWR@warnedcustomizemathjax}{ }{%
7193 \StrLen{\detokenize{\#1}}[\LWR@tempone]%
7194 \ifnumgreater{\LWR@tempone}{350}{%
7195 \AtEndDocument{%
7196 \PackageWarningNoLine{l warp}{%
7197 To ensure faster MathJax compilation, place each\MessageBreak
7198 custom macro in its own \protect\CustomizeMathJax.\MessageBreak
7199 See the L warp documentation regarding customizing\MessageBreak
7200 MathJax%
7201 }%
7202 }%
7203 \booltrue{LWR@warnedcustomizemathjax}%
7204 }{ }%
7205 }%
7206 \appto{\LWR@customizedMathJax}{\LWRbackslash{}}%
7207 \LWR@subcustomizedmathjax{\#1}%
7208 \appto{\LWR@customizedMathJax}{\LWRbackslash}\par}%
7209 }
7210 \onlypreamble\CustomizeMathJax

```

\LWR@infoprocessingmathjax {*<package name>*}

```

7211 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7212 \typeout{---}
7213 \typeout{Package l warp: Processing MathJax customizations for #1.}
7214 \typeout{\space\space This may take a moment.}
7215 \typeout{---}
7216 }

```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the LATEX math is generated inside the HTML comment. For other math environments, the \footnotemark / \footnotetext method must be used. See section 8.5.4 regarding \footnotemark.



\footnotemark

For footnotes, \footnotename is used in most cases, however for equation the footnote is picked up from LATEXin \LWR@doendequation.

First, \footnotename for MATHJAX is copied from LATEX.

```

7217 \providecommand{\footnotename}{footnote}
7218
7219 % due to warpMathJax:
7220 \end{warpHTML}
7221
7222 \begin{warpMathJax}
7223 \xdef{\LWR@customizedMathJax}{\LWR@customizedMathJax\%
7224 \LWRbackslash\%
7225 \LWRbackslash{}newcommand\%
7226 {\LWRbackslash{}footnotename}\%}

```

---

```

7227 \{\footnotename\}%
7228 \LWRbackslash)\par%
7229 }
7230 \end{warpMathJax}

```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```

7231 \begin{warpMathJax}
7232 \CustomizeMathJax{\def\LWRfootnote{1}}
7233 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{#1}}}}
7234 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{#1}}}}

```

`\hspace` is modified to accept and ignore a star:

```

7235 \CustomizeMathJax{\let\LWRorighspace\hspace}
7236 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}

```

Various other customizations:

```

7237 \CustomizeMathJax{\newcommand{\mathnormal}[1]{{#1}}}
7238 \CustomizeMathJax{\newcommand\ensuremath[1]{{#1}}}
7239 \CustomizeMathJax{\% absorb two optional arguments
7240 \newcommand{\LWRframebox}[2][]{\fbox{#2}}
7241 \newcommand{\framebox}[1][]{\LWRframebox}
7242 }
7243 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7244 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7245 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7246 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7247 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7248 \CustomizeMathJax{\newcommand{\number}[1]{}}
7249 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \\}}
7250 \CustomizeMathJax{\newcommand{\cline}[1]{}}
7251 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7252 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

7253 \CustomizeMathJax{\newcommand{\protect}{}}
7254 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
7255 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
7256 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1]{}}
7257 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][]{\LWRabsorboption}}
7258 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7259 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7260 \CustomizeMathJax{\let\delcode\mathcode}
7261 \CustomizeMathJax{\let\delimiter\mathchar}

```

Some text symbols missing from MATHJAX:

```

7262 \CustomizeMathJax{\def\oe{\unicode{x0153}}}
7263 \CustomizeMathJax{\def\OE{\unicode{x0152}}}

```

---

```

7264 \CustomizeMathJax{\def\ae{\unicode{x00E6}}}
7265 \CustomizeMathJax{\def\AE{\unicode{x00C6}}}
7266 \CustomizeMathJax{\def\aa{\unicode{x00E5}}}
7267 \CustomizeMathJax{\def\AA{\unicode{x00C5}}}
7268 \CustomizeMathJax{\def\o{\unicode{x00F8}}}
7269 \CustomizeMathJax{\def\O{\unicode{x00D8}}}
7270 \CustomizeMathJax{\def\l{\unicode{x0142}}}
7271 \CustomizeMathJax{\def\L{\unicode{x0141}}}
7272 \CustomizeMathJax{\def\ss{\unicode{x00DF}}}
7273 \CustomizeMathJax{\def\SS{\unicode{x1E9E}}}
7274 \CustomizeMathJax{\def\dag{\unicode{x2020}}}
7275 \CustomizeMathJax{\def\ddag{\unicode{x2021}}}
7276 \CustomizeMathJax{\def\P{\unicode{x00B6}}}
7277 \CustomizeMathJax{\def\copyright{\unicode{x00A9}}}
7278 \CustomizeMathJax{\def\pounds{\unicode{x00A3}}}
7279 \end{warpMathJax}
7280
7281
7282 \begin{warpHTML}%

```

\LWR@customizeMathJax Prints MATHJAX commands to the HTML output.

```

7283 \newcommand{\LWR@customizeMathJax}{%
7284 \ifbool{mathjax}{%
7285 \LWR@stopars
7286 \LWR@htmlcomment{MathJax customizations:}
7287
7288 \begin{BlockClass}{hidden}
7289 \LWR@stopars

```

Avoid ligatures while printing MATHJAX customizations:

```

7290 {
7291 \LWR@print@ttfamily
7292 \LWR@customizedMathJax
7293 }
7294 \LWR@startpars
7295 \end{BlockClass}
7296
7297 \LWR@startpars
7298 }{ }
7299 }

7300 \end{warpHTML}

```

**for PRINT output:** 7301 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```

7302 \newcommand*{\CustomizeMathJax}[1]{}

```

---

```
\FilenameSimplify * {\<expression>}

7303 \NewDocumentCommand{\FilenameSimplify}{s m}{}

7304 \end{warpprint}

for HTML output: 7305 \begin{warpHTML}
```

\LWR@createfooter If specified, create the first or later web page footer.

```
7306 \newcommand*{\LWR@createfooter}{%
7307 \ifnumless{\value{\LWR@htmleqfilenumber}}{1}{%
7308 \ifdefempty{\LWR@firstpagebottom}{%
7309 \LWR@htmlelement{footer}%
7310 \LWR@firstpagebottom%
7311 }%
7312 \LWR@htmlelementend{footer}%
7313 }%
7314 }%
7315 }%
7316 \ifdefempty{\LWR@pagebottom}{%
7317 \LWR@htmlelement{footer}%
7318 \LWR@pagebottom%
7319 }%
7320 \LWR@htmlelementend{footer}%
7321 }%
7322 }%
7323 }%
7324 }
```

\LWR@newhtmlfile {\<section name>}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and css are, then adds navigation, side toc, header, and starts the text body.

```
7325 \newcommand*{\LWR@newhtmlfile}[1]{%
7326 \LWR@traceinfo{\LWR@newhtmlfile}}
```

At the bottom of the ending file:

```
7327 \LWR@htmlelementclassend{section}{textbody}%
7328 \LWR@htmlelementclassend{main}{bodycontainer}%
7329 \LWR@htmlelementclassend{div}{bodyandsidetoc}%
7330 %
7331 \LWR@printpendingfootnotes%
7332 %
```

No footer between files if EPUB:

```
7333 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

---

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7334 \ifthenelse{\boolean{FormatEPUB} \OR \boolean{FormatWP}}
7335 {}
7336 {\ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
7337 \LWR@stoppars
7338 \LWR@htmlltag{/body}\LWR@orignewline
7339 \LWR@htmlltag{/html}\LWR@orignewline
7340 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewline}
7341 \LWR@maybe@orignewline

7342 \addtocounter{\LWR@htmlfilename}{1}%
7343 \addtocounter{\LWR@htmlseqfilename}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
7344 \ifbool{FileSectionNames}%
7345 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7346 \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7347 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
7348 \ifcsundef{\LWR@filename\LWR@hashedname}{%
```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```
7349 \csdef{\LWR@filename\LWR@hashedname}{}%
7350 }{%
```

If the filename is not unique, create an error.

```
7351 \PackageError{lwarp}%
7352 {%
7353 The section name:\MessageBreak
7354 '#1',\MessageBreak}
```

```
7355 at the line number listed below.\MessageBreak
7356 generates the filename\MessageBreak
7357 ‘‘\LWR@thisfilename’’,\MessageBreak
7358 which appears to be a duplicate. There is a\MessageBreak
7359 previous section with an identical or similar name.\MessageBreak
7360 While generating file names, Lwarp sanitizes math,\MessageBreak
7361 most symbols, and a few common short words,\MessageBreak
7362 and this may cause a conflict.\MessageBreak
7363 Enter 'H' for possible solutions%
7364 }%
7365 {%
7366 \LWR@avoiddupfilenames%
7367 }%
7368 }%
7369 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7370 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7371 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%

\LWR@nullfonts to allow math in a section name.
```

```
7372 \begingroup%
7373 \LWR@nullfonts%
7374 \LWR@htmlblockcomment{%
7375 |Start file|%
7376 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7377 }
7378 \endgroup%
```

At the top of the starting file:

```
7379 \LWR@stopars
7380
```

Start a new file with the given section name:

```
7381 \LWR@filestart[#1]
7382
```

Track the PDF page numbers of the HTML output. This is updated more frequently than `LWR@currentautosecpage`.

```
7383 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7384 \LWR@newautopagelabel{LWR@currentautosecfloatpage}%

```

No navigation between files if formatting for an EPUB or word processor:

---

```

7385 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7386 {}
7387 {\LWR@topnavigation}
7388

```

No header if between files if formatting for an EPUB or word processor:

```

7389 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7390 {}
7391 {
7392 \ifdefempty{\LWR@pagetop}{}{
7393 \LWR@htmlelement{header}
7394
7395 \LWR@pagetop
7396
7397 \LWR@htmlelementend{header}
7398 }
7399 }
7400

```

The container for the sidetoc and text body:

```

7401 \LWR@htmlelementclass{div}{bodyandsidetoc}

```

No sidetoc if formatting for an EPUB or word processor:

```

7402 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7403 {}
7404 {\LWR@sidetoc}
7405

```

Start of the <textbody>:

```

7406 \LWR@htmlelementclass{main}{bodycontainer}
7407 \LWR@htmlelementclass{section}{textbody}

```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```

7408 \boolfalse{\LWR@setseqfilelabel}

```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

7409 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7410 {}%
7411 {%
7412 \ifcvoid{\thetitle}{}{%
7413 \LWR@printthetitle%
7414 }%
7415 }%

```

Keep paragraph tags disabled for now:

---

```

7416 \LWR@stopars
7417

If using MATHJAX, print the customizations here.

7418 \LWR@customizeMathJax

7419 \LWR@traceinfo{\LWR@newhtmlfile: done}
7420 }

7421 \end{warpHTML}

```

## 64 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by css, so the emulated code has much less work to do than the print versions.

**Unicode** Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdflatex* to generate characters and *pdftotext* to read them. If extra symbols appear in the text, it may be that *pdflatex* is actually producing a symbol over or under a character, resulting in *pdftotext* picking up the accent symbol separately.

**accents in filenames** *Xe*L<sup>A</sup>T<sub>E</sub>X and *Lua*L<sup>A</sup>T<sub>E</sub>X directly support accented section and file names, but it may be necessary to use L<sup>A</sup>T<sub>E</sub>X accents instead of native Unicode accents. L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

**for HTML output:** 7422 \begin{warpHTML}

### 64.1 User-level starred section commands

\ForceHTMLPage For HTML output, forces the next section to be on its own HTML page, if FileDepth allows, even if starred. For use with \printindex and others which generate a starred section which should be on its own HTML page. Also see \ForceHTMLTOC.

For print output, no effect.

```

7423 \newbool{\LWR@forcinghtmlpage}
7424 \boolfalse{\LWR@forcinghtmlpage}
7425
7426 \newcommand*{\ForceHTMLPage}{%
7427 \global\booltrue{\LWR@forcinghtmlpage}%
7428 }

```

\ForceHTMLTOC For HTML output, forces the next section to have a TOC entry, even if starred. For use with \printindex and others which generate a starred section which should be in the

---

TOC so that it may be accessed via HTML. Not necessary if used with `tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```

7429 \newbool{LWR@forcinghtmltoc}
7430 \boolfalse{LWR@forcinghtmltoc}
7431
7432 \newcommand*{\ForceHTMLTOC}{%
7433 \global\booltrue{LWR@forcinghtmltoc}%
7434 }

7435 \end{warpHTML}

for PRINT output: 7436 \begin{warpprint}
7437 \newcommand*{\ForceHTMLPage}{}
7438 \newcommand*{\ForceHTMLTOC}{}
7439 \end{warpprint}

for HTML output: 7440 \begin{warpHTML}

```

## 64.2 Book class commands

`\mainmatter` Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.

```

7441 \newbool{LWR@mainmatter}
7442 \DeclareDocumentCommand{\mainmatter}{}{%
7443 \booltrue{LWR@mainmatter}%
7444 }

```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7445 \DeclareDocumentCommand{\frontmatter}{}{%
7446 \boolfalse{LWR@mainmatter}%
7447 }

```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```

7448 \DeclareDocumentCommand{\backmatter}{}{%
7449 \boolfalse{LWR@mainmatter}%
7450 }

```

## 64.3 Sectioning support macros

`\LWR@sectionnumber {<section type>}`

Typeset a section number and its trailing space with css formatting:

```
7451 \newcommand*{\LWR@sectionnumber}[1]{%
7452 \InlineClass{sectionnumber}{#1}%
7453 }
```

**autosec** A tag used by the toc and index.

\LWR@createautosec {*<section type>*}

Create an autosection tag.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```
7454 \newcommand*{\LWR@createautosec}[1]{%
7455 \LWR@htmltag{%
7456 #1 % space
7457 id=\textquotedbl\LWR@print@mbox{autosec-\arabic{page}}\textquotedbl%
7458 }%
7459 }
```

\LWR@pushoneclose {*<sectiontype>*} Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

⚠ \LWR@stoppars must be executed first.

```
7460 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7461 \LWR@traceinfo{\LWR@pushoneclose #1}%
7462 \LWR@pushclose{#1}%
7463 }
```

\LWR@startnewdepth {*<sectiontype>*}

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

⚠ \LWR@stoppars must be executed first.

```
7464 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7465 \LWR@closeprevious{#1}%

```

Push a new section depth:

```
7466 \LWR@pushoneclose{#1}%
7467 }
```

**Ctrl LWR@prevFileDepth** Remembers the previous LWR@FileDepth.

---

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7468 \newcounter{LWR@prevFileDepth}
7469 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

\@seccntformat {⟨sectiontype⟩}

```
7470 \def@\seccntformat#1{\csname the#1\endcsname\quad}
```

\simplechapterdelim Used by **tocbibind** and **anonchap**.

```
7471 \newcommand*\simplechapterdelim{}
```

\@chapcntformat {⟨sectiontype⟩}

\let to \@seccntformat by default, but may be redefined by **simplechapter** and **\restorechapter** from **tocbibind** or **anonchap**.

```
7472 \let@\chapcntformat@\seccntformat
```

\@partcntformat {⟨sectiontype⟩}

\let to \@seccntformat by default, but may be redefined by **ctex**.

```
7473 \let@\partcntformat@\seccntformat
```

\@partnameformat Prints “Part” for part sections.

Nullified by **ctex**.

```
7474 \newcommand*\@partnameformat{\LWR@isolate{\partname}~}%
```

\LWR@printchaptername Print \chaptername in most cases, but this is nullified for **ctexbook**, **komascript**, **ujt\*** classes.

```
7475 \newcommand*\LWR@printchaptername{%
7476 \ifdefvoid{\chaptername}{}{\chaptername~}%
7477 }
```

\LWR@section \* [⟨TOC name⟩] {⟨name⟩} {⟨sectiontype⟩}

The common actions for the high-level sectioning commands.

```
7478 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7479 \IfValueTF{#2}{%
7480 {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
7481 {\LWR@traceinfo{\LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a <span>:

```
7482 \LWR@spanwarninvalid{section}%
7483 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7484 \LWR@stoppars%
7485 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7486 \global\boolfalse{\LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for \part\*, for appendix.

Generate a new LATEX page so that toc and index page number points to the section:

```
7487 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
7488 \IfBooleanT{#1}{\LWR@traceinfo{\LWR@section: starred}{}}
7489 \ifbool{\LWR@forcinghtmlpage}{\LWR@traceinfo{\LWR@section: forcinghtmlpage}{}{}}
7490 \ifthenelse{%
7491 \(%
7492 \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7493 \(\cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7494 \(\boolean{\LWR@forcinghtmlpage}\)\%
7495 \)%
7496 \AND%
7497 \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{FileDepth}}%
7498 \AND%
7499 \(%
7500 \NOT\boolean{CombineHigherDepths}\OR%
7501 \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7502 \)%
7503 \AND%
7504 \(% phantomsection
7505 \NOT\isempty{#3}%
7506 \OR%
7507 \(\NOT\equal{#1}{\BooleanTrue}\)\%
7508 \)%
7509 }%
```

If so: start a new HTML file:

```
7510 {%
7511 new file
7511 \LWR@traceinfo{\LWR@section: new HTML file}%
}
```

See if there was an optional toc name entry:

```
7512 \IfNoValueTF{#2}{%
```

If no optional entry

---

```
7513 {\LWR@newhtmlfile{#3}}%
```

If yes an optional entry

```
7514 {\LWR@newhtmlfile{#2}}%
7515 }% new file
```

Else: No new HTML file:

```
7516 {% not new file
```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that TOC and index page number points to the section:

```
7517 \LWR@traceinfo{\LWR@section: not a new HTML file, about to \LWR@orignewpage}%
7518 \LWR@maybe@\orignewpage%
7519 }% not new file
7520
```

Remember this section's name for \nameref:

```
7521 \IfValueT{#3}{%
7522 \LWR@traceinfo{\LWR@section: about to \LWR@setlatestname}%
7523 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7524 }%
```

Print an opening comment with the level and the name; ex: “section” “Introduction” Footnotes may be used in section names, which would also appear in the HTML section opening comments, so the short TOC entry is used if possible, and a limited opening comment is made if the sectional unit is starred.

```
7525 \ifbool{HTMLDebugComments}{%
7526 \begingroup%
7527 \LWR@nullfonts%
7528 \IfBooleanTF{#1}{starred}{%
7529 {\LWR@htmlcomment{Opening #4*}}%
7530 }%
7531 \IfNoValueTF{#2}{short TOC}{%
7532 {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7533 {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7534 }\LWR@newline%
7535 \endgroup%
7536 }{}}
```

For inline sections paragraph and subparagraph, start a new paragraph now:

```
7537 \ifthenelse{%
7538 \cnttest{@nameuse{\LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7539 }%
7540 {\LWR@startpars}%
7541 {}%
```

Create the opening tag with an autosec:

```
7542 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7543 \LWR@createautosec{@nameuse{LWR@tag#4}}%
```

```
7544 \setcounter{LWR@currentautosecpage}{\value{page}}%
```

Check if starred:

```
7545 \IfBooleanTF{#1}%
7546 {%
7547 \LWR@traceinfo{LWR@section: starred}%
}
```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```
7548 \ifbool{LWR@forcinghtmltoc}%
7549 {%
7550 \addcontentsline{toc}{#4}{%
7551 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7552 }%
7553 }%
7554 {}%
7555 }% starred
```

Not starred, so step counter and add to TOC:

```
7556 {% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```
7557 \ifthenelse{%
7558 \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7559 }%
7560 {% if secnumdepth
```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```
7561 \LWR@traceinfo{LWR@section: about to test main matter}%
7562 \ifbool{LWR@mainmatter}%
7563 {%
7564 \LWR@traceinfo{LWR@section: yes mainmatter}%
7565 \refstepcounter{#4}%
```

Add main matter numbered TOC entry with the TOC name or the regular name:

```
7566 \LWR@traceinfo{LWR@section: about to addcontentsline}%
7567 \addcontentsline{toc}{#4}%
7568 {%
7569 \protect\numberline{%
7570 @nameuse{pre#4name}%
7571 @nameuse{the#4}%
7572 @nameuse{post#4name}%
7573 }%
7574 {}%
```

```

7575 \ignorespaces%
7576 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7577 }%
7578 }%
7579 \LWR@traceinfo{LWR@section: finished addcontentsline}%
7580 }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

7581 {%
7582 \LWR@traceinfo{LWR@section: no main matter}%
7583 \addcontentsline{toc}{#4}{%
7584 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7585 }%
7586 }% end of not main matter
7587 }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered TOC entry:

```

7588 {%
7589 \addcontentsline{toc}{#4}{%
7590 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7591 }%
7592 }%

```

For part, print “Part”:

```

7593 \ifbool{LWR@mainmatter}{%
7594 {%
7595 \ifthenelse{%
7596 \cnttest{@nameuse{LWR@depth#4}}{<=}{%
7597 {\value{secnumdepth}}\AND%
7598 \cnttest{@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}}%
7599 }%
7600 {\@partnameformat}%
7601 }%

```

Print the section number:

```

7602 \LWR@traceinfo{LWR@section: about to print section number}%
7603 \ifthenelse{%
7604 \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7605 }%
7606 {%
7607 \ifstreq{#4}{part}{%
7608 \protect\LWR@sectionnumber{@partcntformat{#4}}%
7609 }%
7610 \ifstreq{#4}{chapter}{%
7611 {%
7612 \LWR@printchaptername%
7613 \protect\LWR@sectionnumber{@chapcntformat{#4}}%
7614 }%
7615 \protect\LWR@sectionnumber{@seccntformat{#4}}%

```

---

```

7616 }%
7617 }%
7618 {}%
7619 \LWR@traceinfo{\LWR@section: finished print section number}%
7620 }{ }%
7621 }% not starred

```

Print the section name:

```

7622 \LWR@traceinfo{\LWR@section: about to print the section name}%
7623 \LWR@isolate{\#3}%

```

Close the heading tag, such as /H2:

```

7624 \LWR@traceinfo{\LWR@section: about to close the heading tag}%
7625 \LWR@htmltag{@nameuse{\LWR@tag#4end}}%
7626 \LWR@newline%

```

Generate a L<sup>A</sup>T<sub>E</sub>X label.

Track the PDF page numbers of the HTML output. A new autopage label may be generated for `\LWR@currentautosecpage` for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `\LWR@currentautosecfloatpage`.

```

7627 \LWR@traceinfo{\LWR@section: about to create the LaTeX label}%
7628 \setcounter{\LWR@currentautosecfloatpage}{\value{page}}%
7629 \LWR@newautpagelabel{\LWR@currentautosecpage}\LWR@newline%

```

If this is the first section found in this file, create a label for previous/next links:

```

7630 \ifbool{\LWR@setseqfilelabel}{}{%
7631 \label{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}%
7632 \booltrue{\LWR@setseqfilelabel}%
7633 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7634 \ifthenelse{%
7635 \cnttest{@nameuse{\LWR@depth#4}}{<}{\LWR@depthparagraph}%
7636 }%
7637 { \LWR@startpars}%
7638 }%

```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a `\part*` to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a `\listoftables` was tested in the middle of the document. The `\chapter*` for the list was not allowing a new HTML page for the section following it while `CombineHigherDepths` was true.

---

```

7639 \ifthenelse{%
7640 \NOT\equal{\#1}{\BooleanTrue}\OR%
7641 \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7642 }%
7643 {% not starred
7644 \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7645 }% not starred
7646 {}%

```

Reset to defaults if not a phantomsection:

```

7647 \ifstrempty{\#3}%
7648 {}%
7649 {%
7650 \global\boolfalse{LWR@forcinghtmlpage}%
7651 \global\boolfalse{LWR@forcinghtmltoc}%
7652 }%
7653 %
7654 \LWR@traceinfo{LWR@section: done}%
7655 }

```

## 64.4 Pre- and post- sectioning names

\prebookname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postbookname

```

7656 \providecommand*\prebookname{}%
7657 \providecommand*\postbookname{}%

```

\prepartname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postpartname

```

7658 \providecommand*\prepartname{}%
7659 \providecommand*\postpartname{}%

```

\prechaptername Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postchaptername

```

7660 \providecommand*\prechaptername{}%
7661 \providecommand*\postchaptername{}%

```

\presectionname Always null, but provided here for algorithmic simplicity in `\LWR@section`.

\postsectionname

```

7662 \providecommand*\presectionname{}%
7663 \let\postsectionname\presectionname
7664
7665 \let\presubsectionname\presectionname
7666 \let\postsubsectionname\postsectionname
7667
7668 \let\presubsubsectionname\presectionname
7669 \let\postsubsubsectionname\postsectionname
7670
7671 \let\preparagraphname\presectionname
7672 \let\postparagraphname\postsectionname

```

---

```

7673
7674 \let\presubparagraphname\preselectionname
7675 \let\postsubparagraphname\postselectionname

```

## 64.5 \section and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```

\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7676 \newcommand{\part@preamble}{}% for koma-script
7677
7678 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7679 \LWR@section{#1}{#3}{#6}{part}%
7680
7681 \part@preamble% for koma-script
7682 \renewcommand{\part@preamble}{}%
7683 }

\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7684 \let\@printcites\relax% for quotchap package
7685
7686 \newcommand{\chapter@preamble}{}% for koma-script
7687
7688 \@ifundefined{chapter}
7689 {}
7690 {%
7691 \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7692 \LWR@section{#1}{#3}{#6}{chapter}%
7693
7694 \@printcites% for quotchap package
7695
7696 \chapter@preamble% for koma-script
7697 \renewcommand{\chapter@preamble}{}%
7698 }
7699 }

\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7700 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7701 \LWR@section{#1}{#3}{#6}{section}%
7702 }

```

\subsection \* (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

---

```

7703 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7704 \LWR@section{#1}{#3}{#6}{subsection}%
7705 }

\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7706 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7707 \LWR@section{#1}{#3}{#6}{subsubsection}%
7708 }

\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7709 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7710 \LWR@section{#1}{#3}{#6}{paragraph}%
7711 }

\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

7712 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7713 \LWR@section{#1}{#3}{#6}{subparagraph}%
7714 }

7715 \end{warpHTML}

```

## 65 Starting a new file

**for HTML & PRINT:** 7716 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```

7717 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7718
7719 \newcommand*{\HTMLLanguage}[1]{%
7720 \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7721 }

```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```

7722 \ifPDFTeX% pdflatex or dvi latex
7723 \ifdefstring{\inputencodingname}{utf8}{%
7724 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7725 }{%
7726 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7727 }%
7728 \else%
7729 \ifpTeX
7730 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen

```

```
7731 \else
7732 \newcommand*\{\theHTMLTitleSeparator\}{ -\ }% EMdash
7733 \fi%
7734 \fi%
```

\HTMLTitleBeforeSection Sets the **HTML** page's meta title tag to show the website title before the section name.

```
7735 \newcommand*\{\HTMLTitleBeforeSection\}%
7736 \def\theHTMLTitleSection{%
7737 \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7738 }%
7739 }
```

\HTMLTitleAfterSection Sets the **HTML** page's meta title tag to show the section name before the website title.

```
7740 \newcommand*\{\HTMLTitleAfterSection\}%
7741 \def\theHTMLTitleSection{%
7742 \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7743 }%
7744 }
```

\theHTMLTitleSection Forms the **HTML** page's meta title tag. The default is to show the website title before the section name.

```
7745 \HTMLTitleBeforeSection
```

\theHTMLSection The section name is passed to \LWR@filestart, which then sets \theHTMLSection for use inside \theHTMLTitleSection to create an **HTML** meta title tag.

```
7746 \newcommand*\{\theHTMLSection\}{}
7747 \end{warpall}
```

**for HTML output:** 7748 \begin{warpHTML}

\LWR@filestart [*<section name>*] Creates the opening **HTML** tags.

```
7749 \newcommand*\{\LWR@filestart\}[1][]{%
7750 \LWR@traceinfo{\LWR@filestart !#!}%
```

Locally temporarily disable direct-formatting commands:

```
7751 \begingroup%
7752 \LWR@nullfonts%
```

Save the section name for use while creating the **HTML** meta title tag:

```
7753 \edef\theHTMLSection{\#1}%
```

Remove extra material:

```
7754 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
7755 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
7756 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
7757 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
7758 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7759 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7760 \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7761 }{}}
```

Create the page's HTML header:

```
7762 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: \LWR@orig@textquotedbl is used here because \textquotedbl is nullified by \LWR@nullfonts while starting the new file.

```
7763 \LWR@htmltag{%
7764 html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7765 }\LWR@orignewline
```

Start of the meta data:

```
7766 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7767 \LWR@htmltag{%
7768 meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7769 }\LWR@orignewline
```

Author:

```
7770 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7771 {}%
7772 {}%
7773 \LWR@htmltag{%
7774 meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7775 content=\LWR@orig@textquotedbl{}\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7776 }\LWR@orignewline%
7777 }%
```

lwarp is the generator:

```
7778 \LWR@htmltag{%
7779 meta % space
7780 name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
```

```
7781 content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7782 }\LWR@orignewline%
```

If there is a description, add it now:

```
7783 \ifdefempty{\LWR@currentHTMLDescription}{}{%
7784 \LWR@htmltag{%
7785 meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7786 content=\LWR@orig@textquotedbl{}\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7787 }\LWR@orignewline
7788 }%
```

Mobile-friendly viewport:

```
7789 \LWR@htmltag{%
7790 meta % space
7791 name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7792 content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7793 }\LWR@orignewline
```

IE patch:

```
7794 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orignewline
7795 \LWR@htmltag{%
7796 script % space
7797 src=\LWR@orig@textquotedbl{}%
7798 http://html5shiv.googlecode.com/svn/trunk/html5.js%
7799 \LWR@orig@textquotedbl%
7800 }%
7801 \LWR@htmltag{/script}\LWR@orignewline
7802 \LWR@htmltag{![endif]-\}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```
7803 \ifthenelse{\equal{\theHTMLTitle}{}}{%
7804 {}%
7805 {%
7806 \LWR@htmltag{title}%
7807 \ifdefempty{\theHTMLSection}{%
7808 {\theHTMLTitle}%
7809 {\theHTMLTitleSection}%
7810 \LWR@htmltag{/title}\LWR@orignewline%
7811 }%
```

The page's stylesheet:

```
7812 \LWR@htmltag{%
7813 link % space
7814 rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7815 type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7816 href=\LWR@orig@textquotedbl{}\LWR@currentcss\LWR@orig@textquotedbl\ /%
7817 }%
7818 \LWR@orignewline
```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

7819 \ifbool{mathjax}%
7820 {%
7821 \begingroup%
7822 \LWR@restoreoriglists%
7823 \boolfalse{\LWR@verbtags}%

7824 \IfFileExists{\LWR@mathjaxfilename}%
7825 {\verbatiminput{\LWR@mathjaxfilename}}%
7826 {%
7827 \PackageError{lwarp}%
7828 {%
7829 \protect\MathJaxFilename\space specified the file\MessageBreak
7830 \space\space\LWR@mathjaxfilename\MessageBreak
7831 which does not exist%
7832 }%
7833 {Specify an existing file, or remove \protect\MathJaxFilename.}%
7834 }%
7835 \booltrue{\LWR@verbtags}%
7836 \endgroup%
7837 \LWR@stopars%
7838 }% end of mathjax
7839 {}%

```

End of the header:

```
7840 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```

7841 \LWR@htmltag{body}\LWR@orignewline

7842 \endgroup%
7843 \LWR@traceinfo{\LWR@filestart: done}%
7844 }

7845 \end{warpHTML}

```

## 66 Starting HTML output

**for HTML output:** 7846 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7847 \catcode`\$=\active
7848 \newcommand*\LWR@lwarpStart{%
7849 {%
7850 \LWR@traceinfo{\LWR@lwarpStart}}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7851 \ifbool{FormatWP}{%
7852 \setcounter{FileDepth}{-5}%
7853 \boolfalse{HTMLDebugComments}}%
7854 }{}}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7855 \edef\LWR@strresult{\HomeHTMLFilename}
7856 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7857 \edef\LWR@strresult{\HTMLFilename}
7858 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7859 \LWR@origonecolumn%
7860 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7861 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7862 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7863 \LWR@print@raggedright%
7864 \LetLtxMacro{\\"{\LWR@endofline}}%
```

Spread the lines for *pdftotext* to read them well:

```
7865 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7866 \setlength{\parindent}{0pt}
7867 \setlength{\parskip}{2ex}
```

For the *lateximage* record file:

```
7868 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7869 \setlength{\belowcaptionskip}{0ex}
7870 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7871 \renewcommand{\ps@plain}{}{}
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
7872 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7873 \global\boolearnfalse{\LWR@doingapar}
7874 \global\boolearnfalse{\LWR@doingstartpars}
```

Document and page settings:

```
7875 \mainmatter
7876 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7877 \LWR@traceinfo{\LWR@lwarfStart: Starting new file.}
7878 \LWR@filestart%
```

Tell *lwarfmk* that the *lwarf* package is in use. This allows *lwarfmk* to warn if *usepackage{lwarf}* was somehow disabled.

```
7879 \begingroup%
7880 \LWR@nullfonts%
7881 \LWR@htmlblockcomment{%
7882 |Using lwarf|%
7883 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7884 }
7885 \endgroup%

7886 \LWR@traceinfo{\LWR@lwarfStart: Generating first header.}
7887 \ifdefempty{\LWR@firstpagetop}{}{%
7888 \LWR@htmlltag{header}\LWR@orignewline
7889 \LWR@startpars
7890 \LWR@firstpagetop
7891 \LWR@stoppars
7892 \LWR@htmlltag{/header}\LWR@orignewline
7893 }%

7894 \LWR@htmlelementclass{div}{bodywithoutsidetoc}
7895 \LWR@htmlelementclass{main}{bodycontainer}
7896 \LWR@traceinfo{\LWR@lwarfStart: Generating textbody.}
7897 \LWR@htmlelementclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
7898 \booltrue{LWR@setseqfilelabel}%
7899 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
7900 \LWR@patchlists
```

Ensure that math mode is active to call lwarp's patches:

```
7901 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```
7902 \immediate\write\@mainaux{\catcode`\string$\active}%
7903 \LetLtxMacro{\LWR@syntaxhighlightone$}{\balance} for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
7904 \LWR@startpars
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
7905 \ifbool{mathjax}%
7906 \typeout{---}
7907 \typeout{Package lwarp:}
7908 \typeout{Processing MathJax customizations for the first HTML page.}
7909 \typeout{Later HTML pages will take the same amount of time.}
7910 \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7911 }{%
7912
7913 \LWR@customizeMathJax
7914
7915 \ifbool{mathjax}%
7916 \typeout{Done.}
7917 \typeout{---}
7918 }{}
```

First autopage label in case a figure occurs early before the first section: A new autopage label may be generated for `LWR@currentautosecpage` for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `LWR@currentautosecfloatpage`.

```
7919 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7920 \LWR@newautopagelabel{LWR@currentautosecpage}%
7921 \LWR@traceinfo{LWR@lwarpStart: done}
7922 }
7923 \catcode`\$=3% math shift until lwarp starts
```

---

7924 \end{warpHTML}

## 67 Ending HTML output

**for HTML output:** 7925 \begin{warpHTML}

\LWR@requesttoc {<boolean>} {<suffix>} Requests that a TOC, LOF, or LOTbe generated.

```
7926 \newcommand*\LWR@requesttoc[2]{%
7927 \ifbool{\#1}{%
7928 {%
7929 \expandafter\newwrite\@nameuse{tf@\#2}%
7930 \immediate\openout \jobname.\#2\relax
7931 }{}%
7932 }
```

\LWR@LwarpEnd Final stop of all HTML output:

```
7933 \newcommand*\LWR@LwarpEnd{%
7934 {%
7935 \LWR@stoppars
7936 \LWR@closeprevious{finished}}
```

At the bottom of the ending file:

Print any pending footnotes:

7937 \LWR@printpendingfootnotes

Close the textbody.

(The \LWR@origtilde is in case no autopage is required for the label, which would not print anything, and something must be printed before the newline.)

7938 \label{\BaseJobname-autofile-last}\LWR@origtilde\LWR@orignewline

```
7939 \LWR@htmlelementclassend{section}{textbody}
7940 \LWR@htmlelementclassend{main}{bodycontainer}
7941 \LWR@htmlelementclassend{div}{bodyandsidetoc}
```

Create the footer if not EPUB

7942 \ifbool{FormatEPUB}{}{\LWR@createfooter}

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```

7943 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7944 {}
7945 {
7946 \ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}
7947 }
7948 \LWR@stoppars% final stop of all paragraphs

```

Finish the HTML file:

```

7949 \LWR@htmntag{/body}\LWR@orignewline
7950 \LWR@htmntag{/html}\LWR@orignewline

```

Seems to be required sometimes:

```

7951 \LWR@maybe@orignewline
7952 }

```

\enddocument If labels have not changed, mark successful completion of the `lateximages.txt` file.  
Executed as everything is being shut down.

For the newer kernel hooks, see **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```

7953 \ifdef{\AddToHook}{%
7954 \AddToHook{\enddocument/info}{%
7955 \if@filesw
7956 \ifx \multiplelabels \relax
7957 \if@tempswa

```

This is where warnings of duplicate labels would appear.

```
7958 \else
```

No duplicate labels, so safe to create images.

```

7959 \immediate\write\LWR@lateximagesfile{%
7960 |end|end|end|%
7961 }%
7962 \fi
7963 \fi\fi
7964 }
7965 }% newer kernel
7966 {% older kernel
7967 \xpatchcmd{\enddocument}{%
7968 \%
7969 \if@tempswa
7970 \@latex@warning@no@line{Label(s) may have changed.
7971 Rerun to get cross-references right}%
7972 \fi
7973 }%
7974 \%
7975 \if@tempswa
7976 \@latex@warning@no@line{Label(s) may have changed.

```

```

7977 Rerun to get cross-references right}%
7978 \else
7979 \immediate\write\LWR@lateximagesfile{%
7980 |end|end|end|%
7981 }%
7982 \fi
7983 }
7984 {}
7985 {
7986 \AtEndDocument{
7987 \PackageWarningNoLine{lwarp}{%
7988 Could not patch \protect\enddocument.\MessageBreak
7989 If labels have changed, be sure to recompile before\MessageBreak
7990 creating lateximages with\MessageBreak
7991 \space\space lwarpmk limages,\MessageBreak
7992 or the images may be corrupt%
7993 }%
7994 }
7995 }
7996 }
7997 }% older kernel

```

## 68 Nullifying foreground/background hooks

See **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```

7998 \ifdef{\RemoveFromHook}{%
7999 \AfterEndPreamble{%
8000 \IfHookEmptyTF{shipout/background}{}{%
8001 \PackageInfo{lwarp}{Removing background hook}%
8002 \RemoveFromHook{shipout/background}[*]%
8003 }%
8004 \IfHookEmptyTF{shipout/foreground}{}{%
8005 \PackageInfo{lwarp}{Removing foreground hook}%
8006 \RemoveFromHook{shipout/foreground}[*]%
8007 }%
8008 }%
8009 }{}%
8010 \end{warpHTML}

```

## 69 Title page

### package support

#### ⚠ load order

lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

**\published and \subtitle** If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 69.8.

**affiliation** `lwarp` provides for the `\author` macro an additional `\affiliation` macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage`'s `\theauthor` in the main text.

**reusing titlepage information** The `titling` package maintains the definitions of `\thetitle`, `\theauthor`, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the `\thanks` and `\affiliation` removed, and for `\author` the `\and` is replaced to generate a simple inline list of authors separated by commas. Note: `\theauthor` does not work well with `authblk` unless the traditional L<sup>A</sup>T<sub>E</sub>X syntax is used.



**custom titlepages** `\printtitle`, `\printauthor`, etc., are provided for use inside a custom `titlepage` or `titlingpage` environment, and these retain the `\thanks` and `\affiliation`.

`\printthanks` `\printthanks` has been added to force the printing of thanks inside a `titlingpage` environment when `\maketitle` is not used.



**\thanks** Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

## 69.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

`\author`  
`\and` {*<author>*} While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

```
\author{Name \\ Affiliation \and Second Name \\ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author` `\@date` `\@title`, `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a `titlepage` or `titlingpage`, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printauthor` `\printdate` `\printtitle`, etc. are user-level macros intended to be used in custom `titlepage` or `titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle` `\theauthor` `\thedate` `\thetitle`, `\theauthor`, and `\thedate` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\HTMLPageBottom`

\affiliation, and \and is changed for inline text usage. The author is printed inline without \affiliation or \thanks, with \and placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
 \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

⚠ **\theauthor, authblk** \theauthor does not work well if authblk is used. If \theauthor is important, it is recommended to use the standard L<sup>A</sup>T<sub>E</sub>X syntax for \author, optionally with lwarp's \affiliation macro as well.

⚠ **affiliations** After \maketitle has completed, \theauthor retains the definition of the author, but \and is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

**\affiliation** A solution, provide here, is to define a macro \affiliation which, during \maketitle, starts a new row and adds the affiliation, but after \maketitle is finished \affiliation is re-defined to discard its argument, thus printing only the author names when \author is later used inline.

## 69.2 \if@titlepage

**for HTML & PRINT:** 8011 \begin{warpall}

\if@titlepage Some classes do not provide \if@titlepage. In this case, provide it and force it false.

```
8012 \ifcsvvoid{@titlepagefalse}{
8013 \newif\if@titlepage
8014 \if@titlepagefalse
8015 }{}
```

```
8016 \end{warpall}
```

## 69.3 Changes for \affiliation

\affiliation {\langle text\rangle}

Adds the affiliation to the author for use in \maketitle.

Inside titlepage, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:** 8017 \begin{warpall}
8018 \providerobustcmd{\affiliation}[1]{}
8019 \end{warpall}

**for PRINT output:** 8020 \begin{warpprint}

---

```

8021 \AtBeginEnvironment{titlepage}{
8022 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}
8023 }
8024
8025 \AtBeginDocument{
8026 \@ifpackageloaded{titling}{
8027 \AtBeginEnvironment{titlingpage}{
8028 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}
8029 }
8030 }{}% titling loaded
8031 }% AtBeginDocument

8032 \end{warpprint}

```

**for HTML output:** 8033 \begin{warpHTML}

**Env titlepage** Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```

8034 \DeclareDocumentEnvironment{titlepage}{}
8035 {%
8036 \renewrobustcmd{\affiliation}[1]{\InlineClass{affiliation}{##1}}%
8037 \LWR@printpendingfootnotes
8038 \LWR@forcenewpage
8039 \BlockClass{titlepage}
8040 }
8041 {
8042 \endBlockClass
8043 \LWR@printpendingfootnotes
8044 }

8045 \end{warpHTML}

```

## 69.4 Printing the thanks

\printthanks Forces the \thanks to be printed. This is necessary in a titlingpage environment when \maketitle was not used.

**for PRINT output:** 8046 \begin{warpprint}
8047 \newcommand\*{\printthanks}{\@thanks}
8048 \end{warpprint}

**for HTML output:** 8049 \begin{warpHTML}
8050 \newcommand\*{\printthanks}{\LWR@stopars\@thanks\LWR@startpars}
8051 \end{warpHTML}

## 69.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a titlepage or a titlingpage in HTML:

**for HTML output:** 8052 \begin{warpHTML}

```
\printtitle
```

```
8053 \newcommand*{\printtitle}{%
8054 {%
8055 \LWR@stoppars%
8056 \LWR@htmlltag{\LWR@tagtitle}%
8057 \@title%
8058 \LWR@htmlltag{\LWR@tagtitleend}%
8059 \LWR@startpars%
8060 }
```

\LWR@printthetitle A private version which prints the title without footnotes, used to title each HTML page.

```
8061 \newcommand*{\LWR@printthetitle}{%
8062 {%
8063 \LWR@stoppars%
8064 \LWR@htmlltag{\LWR@tagtitle}%
8065 \thetitle%
8066 \LWR@htmlltag{\LWR@tagtitleend}%
8067 \LWR@startpars%
8068 }
```

\printauthor HTML version.

```
8069 \newcommand*{\printauthor}{
```

The entire author block is contained in a <div> named author:

```
8070 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
8071 \renewcommand{\and}{%
8072 \end{BlockClass}%
8073 \begin{BlockClass}{oneauthor}%
8074 }
```

Individual authors are contained in a <div> named oneauthor:

```
8075 \begin{BlockClass}{oneauthor}%
8076 \@author%
8077 \end{BlockClass}%
8078 \end{BlockClass}%
8079 }
```

\printdate

```
8080 \newcommand*{\printdate}{%
8081 \begin{BlockClass}{titledate}%
8082 \@date%
8083 \end{BlockClass}%
8084 }
```

---

```
8085 \end{warpHTML}
```

## 69.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a `titlepage` or a `titlingpage` in print form:

**for PRINT output:** 8086 `\begin{warpprint}`

```
\printtitle
8087 \newcommand*{\printtitle}{{\Huge \@title}}
```

`\printauthor` Print mode.

```
8088 \newcommand*{\printauthor}
8089 {{\large \begin{tabular}[t]{c}\@author\end{tabular}}}
```

`\printdate`

```
8090 \newcommand*{\printdate}{{\small \textit{@date}}}
8091 \end{warpprint}
```

## 69.7 \maketitle for HTML output

An HTML `<div>` of class `titlepage` is used.

`\thanks` are a form of footnotes used in the title page. See section 60 for other kinds of footnotes.

See `\thanksmarkseries{series}`, below, to set the style of the footnote marks.

**for HTML output:** 8092 `\begin{warpHTML}`

```
8093 @ifclassloaded{memoir}
8094 {
8095 \newcommand{\LWR@setfootnoteseries}{%
8096 \renewcommand{\thefootnote}{\@arabic\c@footnote}%
8097 }
8098 }% not memoir
8099 \if@titlepage
8100 \newcommand{\LWR@setfootnoteseries}{%
8101 \renewcommand{\thefootnote}{\@arabic\c@footnote}%
8102 }
8103 \else
8104 \newcommand{\LWR@setfootnoteseries}{%
8105 \renewcommand{\thefootnote}{\@fnsymbol\c@footnote}%
8106 }
```

```
8107 \fi
8108 }% not memoir
```

\LWR@maketitlesetup Patches \thanks macros.

```
8109 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
8110 \LWR@setfootnoteseries%
8111 \def\@makefnmark{%
8112 \thefootnote%
8113 }
```

```
\thefootnote \Rightarrow \nameuse{arabic}{footnote}, or
\thefootnote \Rightarrow \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
8114 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8115 \@thefnmark~%
```

```
\makethanksmark \Rightarrow \thanksfootmark \Rightarrow \tmark \Rightarrow
\@thefnmark \Rightarrow \itshape a (or similar)
```

Print the text:

```
8116 {##1}%
8117 }%
8118 }
```

\@fnsymbol {\langle counter \rangle}

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used \| which was not being seen by *pdftotext*.

```
8119 \def\@fnsymbol#1{%
8120 \ifcase#1\or *\or
8121 \HTMLentity{dagger}\or
8122 \HTMLentity{Dagger}\or
8123 \HTMLentity{sect}\or
8124 \HTMLentity{para}\or
8125 \HTMLunicode{2016}\or
8126 **\or
8127 \HTMLentity{dagger}\HTMLentity{dagger} \or
8128 \HTMLentity{Dagger}\HTMLentity{Dagger} \else
8129 \@ctrerr\fi%
8130 }
8131 \LWR@formatted{@fnsymbol}
```

\maketitle HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the `titling` package is adapted, simplified, and modified for HTML output.

The name `\LWR@maketitle` is used to preserve its definition in case a later package overwrites `\maketitle`.

8132 \newcommand\*\{\LWR@maketitle}{%

An HTML titlepage <div> is used for all classes.

8133 \begin{titlepage}

Set up special patches:

8134 \LWR@maketitlesetup

Typeset the title, etc:

8135 \@maketitle

Immediately generate any \thanks footnotes:

8136 \LWR@stopars@\thanks\LWR@startpars

Close the HTML titlepage div and cleanup:

8137 \end{titlepage}  
8138 \setcounter{footnote}{0}%  
8139 \global\let\thanks\relax  
8140 \global\let\maketitle\relax  
8141 \global\let\@maketitle\relax  
8142 \global\let\@thanks\@empty  
8143 \global\let\@author\@empty  
8144 \global\let\@date\@empty  
8145 \global\let\@title\@empty  
8146 \global\let\title\relax  
8147 \global\let\author\relax  
8148 \global\let\date\relax  
8149 \global\let\and\relax  
8150 }  
8151  
8152 \LetLtxMacro\maketitle\LWR@maketitle

\@maketitle HTML mode. Typesets the title, etc.:

8153 \providecommand\*\{@maketitle}{}  
8154 \renewrobustcmd{\@maketitle}{%  
8155 \LWR@stopars%  
8156 \LWR@htmltag{\LWR@tagtitle}%"  
8157 \@title%  
8158 \LWR@htmltag{\LWR@tagtitleend}%"  
8159 \LWR@startpars%  
8160 \begin{BlockClass}\author%

For **IEEEtran** class:

```

8161 \renewcommand*\{\\cr\}{\\}
8162 \renewcommand*\{\\c r c r\}{\\}
8163 \renewcommand*\{\\noalign\}{\\}

8164 \renewcommand{\and}{%
8165 \\end{BlockClass}%
8166 \\begin{BlockClass}{oneauthor}%
8167 }%
8168 \\begin{BlockClass}{oneauthor}%
8169 \\@author%
8170 \\end{BlockClass}%
8171 \\end{BlockClass}%
8172 \\begin{BlockClass}{titledate}%
8173 \\@date%
8174 \\end{BlockClass}%
8175 }
```

\LWR@titlingmaketitle \maketitle for use inside an **HTML** **titlingpage** environment.

```
8176 \\newcommand*{\\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
8177 \\LWR@stoppars@thanks\\LWR@startpars
```

Set up special patches:

```
8178 \\LWR@maketitlesetup
```

Typeset the title, etc:

```
8179 \\@maketitle
```

Immediately generate any \thanks footnotes:

```
8180 \\LWR@stoppars@thanks\\LWR@startpars
8181 }
```

```
8182 \\end{warpHTML}
```

## 69.8 \published and \subtitle

**\subtitle** and **\published** To add **\subtitle** and **\published** to the **titlepage**, load the **titling** package and use **\AddSubtitlePublished** in the preamble.

The default **lwarp.css** has definitions for the **published** and **subtitle** classes.

If **titling** is loaded, **\AddSubtitlePublished** creates a number of additional macros, and also assigns some of the **titling** hooks. If **titling** is not loaded, **\AddSubtitlePublished** creates null macros.

 **titling hooks** Do not use \AddSubtitlePublished if the user has patched the titling hooks for some other reason. Portions are marked \warpprintonly to reduce extra tags in HTML. Similarly, BlockClass has no effect in print mode. Thus, the following may be marked warpall.

**for HTML & PRINT:** 8183 \begin{warpall}

\AddSubtitlePublished Adds \published and \subtitle, and related.

```

8184 \newcommand*\AddSubtitlePublished{%
8185 @ifpackageloaded{titling}{%
8186 \newcommand{\@published}{}%
8187 \newcommand{\published}[1]{\gdef\@published{\##1}}%
8188 \renewcommand*\maketitlehooka{\printpublished}%
8189 \newcommand*\printpublished{%
8190 \warpprintonly{\begin{center}\unskip}%
8191 \begin{BlockClass}{published}%
8192 \warpprintonly{\large\itshape}%
8193 \@published%
8194 \end{BlockClass}%
8195 \warpprintonly{\end{center}}%
8196 }%
8197 \newcommand{\@subtitle}{}%
8198 \newcommand{\subtitle}[1]{\gdef\@subtitle{\##1}}%
8199 \renewcommand*\maketitlehookb{\prints_subtitle}%
8200 \newcommand*\prints_subtitle{%
8201 \warpprintonly{\begin{center}\unskip}%
8202 \begin{BlockClass}{subtitle}%
8203 \warpprintonly{\Large\itshape}%
8204 \@subtitle%
8205 \end{BlockClass}%
8206 \warpprintonly{\end{center}}%
8207 }%
8208 }%
8209 }% yes titling package
8210 }% no titling package

8211 \def\@published{}%
8212 \DeclareDocumentCommand{\published}{m}{\gdef\@published{\##1}}%
8213 \def\@subtitle{}%
8214 \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{\##1}}%
8215 \DeclareDocumentCommand{\prints_subtitle}{}{%
8216 }% no titling package
8217 }% \AddSubtitlePublished

8218 \end{warpall}

```

## 70 Abstract

The following code replaces the L<sup>A</sup>T<sub>E</sub>X default, and will itself be replaced later if the abstract package is loaded.

**for HTML output:** 8219 \begin{warpHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the babel package.

8220 \providecommand\*\{\abstractname\}{Abstract}

Some classes allow an optional name, so it is allowed here.

Env abstract

```
8221 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
8222 {
8223 \LWR@forcenewpage
8224 \BlockClass{abstract}
8225 \BlockClassSingle{abstracttitle}{#1}
8226 }
8227 {
8228 \endBlockClass
8229 }
```

8230 \end{warpHTML}

## 71 Quote and verse

### 71.1 Attributions

\attribution {\langle name\rangle}

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\\\textsl{Book Title}}

**for HTML & PRINT:** 8231 \begin{warpall}
8232 \newcommand{\attribution}[1]{
8233 \begin{flushright}
8234 \unskip
8235 #1
8236 \end{flushright}%
8237 }
8238 \end{warpall}

**for HTML output:** 8239 \begin{warpHTML}
8240 \newcommand{\LWR@HTML@attribution}[1]{%
8241 \LWR@stoppars%
8242 \begin{BlockClass}{attribution}
8243 #1
8244 \end{BlockClass}

---

```

8245 \LWR@startpars%
8246 }
8247 \LWR@formatted{attribution}
8248 \end{warpHTML}
```

## 71.2 Quotes, quotations

**for HTML output:** 8249 \begin{warpHTML}

Env quote

```

8250 \newenvironment*{\LWR@HTML@quote}{}
8251 {
8252 \LWR@forcenewpage
8253 \LWR@htmlblocktag{blockquote}
8254 }
8255 {\LWR@htmlblocktag{/blockquote}}
8256
8257 \LWR@formattedenv{quote}
```

Env quotation

```

8258 \newenvironment*{\LWR@HTML@quotation}{}
8259 {
8260 \LWR@forcenewpage
8261 \LWR@htmlblocktag{blockquote}
8262 }
8263 {\LWR@htmlblocktag{/blockquote}}
8264
8265 \LWR@formattedenv{quotation}

8266 \end{warpHTML}
```

## 71.3 Verse

When using `verse` or `memoir`, always place a `\\"` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

`\Len` `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they  
`\Len` `\vleftmargini` may already be set by the user for print output. New lengths `\HTMLvleftskip` and  
`\HTMLleftmargini` are provided to control the margins in HTML output. These new  
`\Len` `\HTMLleftmargini`

lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ **spacing** Horizontal spacing relies on `pdftotext`'s ability to discern the layout (`-layout` option) of the text in the `HTML`-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to `HTML`, the stanza numbers are kept out of the left margin, which would have caused `pdftotext` to shift everything over.

### 71.3.1 L<sup>A</sup>T<sub>E</sub>X core `verse` environment

**for HTML output:** 8267 `\begin{warpHTML}`

Env `verse`

```

8268 \newenvironment{LWR@HTML@verse}
8269 {\let\\newline% lwarp
8270 \list{}{\itemsep \z@
8271 \itemindent -1.5em%
8272 \listparindent\itemindent
8273 \rightmargin \leftmargin
8274 \advance\leftmargin 1.5em}%
8275 \item\relax}
8276 {\endlist}
8277
8278 \LWR@formattedenv{verse}

8279 \end{warpHTML}

```

**for HTML & PRINT:** 8280 `\begin{warpall}`

### 71.3.2 `verse` and `memoir`

The following lengths are used by `verse` and `memoir`. They may be set in either print or `HTML` output, but are only used in `HTML`. This allows the user to set `\vleftskip` and `\leftmargini` for print output, and optionally select different values for `HTML`.

Len `\HTMLvleftskip` Sets `\vleftskip` inside a `verse` environment in `HTML`.

```

8281 \newlength{\HTMLvleftskip}
8282 \setlength{\HTMLvleftskip}{1em}

```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a `verse` environment in `HTML`.

```

8283 \newlength{\HTMLleftmargini}
8284 \setlength{\HTMLleftmargini}{4.5em}

```

---

```
8285 \end{warpall}
```

## 72 Verbatim and tabbing

**for HTML & PRINT:** 8286 \begin{warpall}

Len \VerbatimHTMLWidth Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```
8287 \newlength{\VerbatimHTMLWidth}
8288 \setlength{\VerbatimHTMLWidth}{4in}
8289 \end{warpall}
```

**for HTML output:** 8290 \begin{warpHTML}

Bool LWR@verbtags Used to temporarily turn off verbatim tags while doing \verbinput in the HTML head.

```
8291 \newbool{LWR@verbtags}
8292 \booltrue{LWR@verbtags}
```

\verb Patched to encapsulate the verbatim text inside span with a class of texttt.

```
8293 \LetLtxMacro{\LWR@orig@verb@egroup}{\verb@egroup}
8294
8295 \def\LWR@verb@egroup{\endspan{%
8296 \LWR@orig@verb@egroup%
8297 \LWR@htmltag{/span}%
8298 \endgroup%
8299 }}
```

```
8300 \xpretocmd{\verb}%
8301 {%
8302 \begingroup%
8303 \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl{}%
8304 \let\verb@egroup{\LWR@verb@egroup\endspan%
8305 }%
8306 {}%
8307 {\LWR@patcherror{LaTeX}{verb}}}
```

\LWR@atbeginverbatim [⟨1: style⟩] {⟨2: class⟩}

Encloses a verbatim environment with the given css class.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
8308 \newcommand*{\LWR@atbeginverbatim}[2][]
8309 {%
```

Stop generating HTML paragraph tags:

```
8310 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8311 \setlength{\parskip}{0ex}%
8312 \setlength{\topsep}{0pt}%
8313 \setlength{\partopsep}{0pt}%
```

Inside the verbatim, temporarily prevent underfull \hbox warnings.

```
8314 \hbadness=10000\relax%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
8315 \ifbool{\LWR@verbtags}{%
8316 \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8317 \ifthenelse{\equal{\#1}{}}{}{ style=\textquotedbl#1\textquotedbl}%
8318 }%
8319 \par%
8320 }{}}
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```
8321 \begingroup%
```

```
8322 \LWR@print@normalfont%
8323 \LWR@origttfamily%
8324 \LWR@print@scriptsize%
```

Since inside a <pre>, restore the original list processing:

```
8325 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
8326 \LWR@hook@processingtags%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L<sup>A</sup>T<sub>E</sub>X \hspace functionality:

```
8327 \LWR@select@print@hspace%
8328 }
```

\LWR@afterendverbatim Finishes enclosing a verbatim environment.

```
8329 \newcommand*{\LWR@afterendverbatim}{%
8330 \endgroup%
8331 \par%
```

At the end of the environment, close the pre:

```
8332 \ifbool{\LWR@verbtags}{%
8333 \noindent\LWR@htmltag{/pre}\par% pre
8334 }{}}
```

Resume regular paragraph handling:

```
8335 \LWR@startpars%
8336 }
```

\verbatiminput {<filename>}

Patch \verbatiminput to add HTML tags:

```
8337 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8338 \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{}
8339 \LWR@atbeginverbatim{Verbatim}%
8340 \LWR@print@verbatim@input{\#1}{\#2}%
8341 \LWR@afterendverbatim%
8342 }
8343
8344 \LWR@formatted{verbatim@input}
```

Env verbatim

```
8345 \AfterEndPreamble{
8346 \LWR@traceinfo{Patching verbatim.}
8347 \AtBeginEnvironment{verbatim}{%
8348 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8349 {}%
8350 {}%
8351 \LWR@forcenewpage%
8352 \LWR@atbeginverbatim{verbatim}%
8353 {}%
8354 }
8355 \AfterEndEnvironment{verbatim}{%
8356 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
8357 {}%
8358 {}%
8359 \LWR@afterendverbatim%
8360 {}%
8361 }
8362 }
```

Env tabbing The tabbing environment works, except that `svg` math and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```
8363 \newcommand*{\LWR@HTML@tabbing}{%
8364 \LWR@forcenewpage%
```

```

8365 \LWR@atbeginverbatim{tabbing}%
8366 \let\enskip\LWR@origenskip%
8367 \let\quad\LWR@origquad%
8368 \let\qquad\LWR@origqquad%
8369 \let~\LWR@origtilde%
8370 \let,\LWR@origcomma%
8371 \let\thinspace\LWR@origthinspace%
8372 \let\negthinspace\LWR@orignegthinspace%
8373 \LWR@print@tabbing%
8374 }
8375
8376 \newcommand*{\LWR@HTML@endtabbing}{%
8377 \LWR@print@endtabbing%
8378 \LWR@afterendverbatim%
8379 }
8380
8381 \LWR@formatted{tabbing}
8382 \LWR@formatted{endtabbing}

8383 \end{warpHTML}

```

## 73 Theorems

\newtheorem {⟨text⟩} [⟨counter⟩] — or — [⟨oldname⟩] {⟨text⟩}

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a <div> of class theoremcontents.
- The label for each theorem is placed inside a <span> of class theoremlabel.
- The contents are placed inside a <div> of class theoremcontents.

**for HTML output:** 8384 \begin{warpHTML}

\@begintheorem {⟨name⟩} {⟨number⟩}

```

8385 \renewcommand{\@begintheorem}[2]{%
8386 \LWR@forcenewpage

8387 \LWR@printpendingfootnotes% lwarp
8388 \BlockClass{theoremcontents}
8389 \trivlist
8390 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
8391 }

```

\@opargbegintheorem {⟨name⟩} {⟨number⟩} {⟨oparg⟩}

L<sup>A</sup>T<sub>E</sub>X defines this, but `amsthm` \relaxes it, so it will not be defined if `amsthm` is loaded before `lwarp`.

```

8392 \ifundef{\@opargbegintheorem}{}{%
8393 \renewcommand{\@opargbegintheorem}[3]{%
8394 \LWR@forcenewpage
8395 \BlockClass{theoremcontents}
8396 \trivlist
8397 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
8398 }
8399 }

\@endtheorem

8400 \renewcommand*{\@endtheorem}{%
8401 \endtrivlist

8402 \LWR@printpendingfootnotes% lwarp
8403 \endBlockClass% theoremcontents
8404 }

8405 \end{warpHTML}

```

## 74 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard L<sup>A</sup>T<sub>E</sub>X environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The L<sup>A</sup>T<sub>E</sub>X source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

**empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```

begin{itemize}
item \mbox{}%
\begin{itemize}
...
\end{itemize}
item %
\begin{itemize}
...
\end{itemize}

```

---

- \makelabel While inside a list environment, `lwarp` nullifies a number of TeX horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.
- ⚠️ label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

## 74.1 List environment

**for HTML output:** 8406 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
8407 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
8408 \newcommand*{\LWR@printopenlist}{%
8409 \ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8410 }
```

`\@mklab` Removes PDF spacing.

```
8411 \AtBeginDocument{%
8412 \def\@mklab#1{%
8413 % \hfil %
8414 #1}%
8415 \let\makelabel\@mklab
8416 }
```

`\@donoparitem` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
8417 \def\@donoparitem{%
8418 \@noparitemfalse
8419 % \global\setbox\@labels\hbox{\hskip -\leftmargin
8420 % \unhbox\@labels
8421 % \hskip \leftmargin}%
8422 % \if@minipage\else
8423 % \tempskipa\lastskip
8424 % \vskip -\lastskip
8425 % \advance\tempskipa\outerparskip
8426 % \advance\tempskipa -\parskip
8427 % \vskip\tempskipa
8428 % \fi
8429 }
```

`\@item` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
8430 \def\LWR@HTML@item[#1]{%
8431 \LWR@traceinfo{@item}%
8432 \if@noperitem
8433 \donoperitem
8434 \else
8435 % \if@inlabel
8436 % \indent
8437 % \par
8438 % \fi
8439 \ifhmode
8440 \unskip\unskip
8441 \par
8442 \fi
8443 \if@newlist
8444 \if@nobreak
8445 \nbitem
8446 \else
8447 \addpenalty\beginparpenalty
8448 \addvspace\topsep
8449 \addvspace{-\parskip}%
8450 \fi
8451 \else
8452 \addpenalty\itempenalty
8453 \addvspace\itemsep
8454 \fi
8455 \global\inlabeltrue
8456 \fi
8457 % \everypar{%
8458 % \minipagefalse
8459 \global\newlistfalse

8460 % \if@inlabel
8461 % \global\inlabelfalse

8462 % {\setbox\z@\lastbox
8463 % \ifvoid\z@
8464 % \kern-\itemindent
8465 % \fi}%
8466 % \box\@labels
8467 % \penalty\z@
8468 \fi

8469 % \if@nobreak
8470 % \nobreakfalse
8471 % \clubpenalty \zM
8472 % \else
8473 % \clubpenalty \clubpenalty
8474 % \everypar{}%
8475 \fi}%

8476 \if@noitemarg
8477 \noitemargfalse
8478 \if@nmbrlist
```

```

8479 \refstepcounter@listctr
8480 \fi
8481 \fi

8482 \makelabel{\#1} % extra space
8483 % \sbox\@tempboxa{\makelabel{\#1}%
8484 % \global\setbox\@labels\hbox{%
8485 % \unhbox\@labels
8486 % \hskip \itemindent
8487 % \hskip -\labelwidth
8488 % \hskip -\labelsep
8489 % \ifdim \wd\@tempboxa >\labelwidth
8490 % \box\@tempboxa

8491 % \else
8492 % \hbox to\labelwidth {\unhbox\@tempboxa}%
8493 % \fi
8494 % \hskip \labelsep}%
8495 \ignorespaces%
8496 }

\@nbitem

8497 \def\@nbitem{%
8498 % \tempskipa\@outerparskip
8499 % \advance\tempskipa -\parskip
8500 % \addvspace\@tempskipa
8501 }

```

### \LWR@listitem [*<label>*]

Handles \item inside a list, itemize, or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

8502 \newcommand*\LWR@listitem{%
8503 \LWR@stoppars%
8504 \LWR@startnewdepth{listitem}%
8505 \LWR@htmlltag{li}%
8506 \LWR@startpars%
8507 \LWR@origitem%
8508 }

```

\LWR@nulllistfills Nullifies various TeX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```

8509 \newcommand*\LWR@nulllistfills{%
8510 \renewcommand*\hss{}%
8511 \renewcommand*\llap[1]{##1}%
8512 \renewcommand*\rlap[1]{##1}%
8513 \renewcommand*\hfil{}%

```

```

8514 \renewcommand*\{hf1neg}{}
8515 \renewcommand*\{hf1ll}{}
8516 }

Env list {\langle label\rangle} {\langle commands\rangle}

8517 \newcommand*\{LWR@liststart}{%
8518 \LWR@traceinfo{LWR@liststart}%
8519 \LWR@stoppars%
8520 \LWR@pushoneclose{list}%
8521 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8522 \LWR@startpars%
8523 \setlength{\topsep}{0pt}%
8524 \setlength{\partopsep}{0pt}%
8525 \setlength{\itemsep}{0pt}%
8526 \setlength{\parsep}{0pt}%
8527 \setlength{\leftmargin}{0pt}%
8528 \setlength{\rightmargin}{0pt}%
8529 \setlength{\listparindent}{0pt}%
8530 \setlength{\itemindent}{0pt}%
8531 \setlength{\labelsep}{1em}%
8532 \LWR@nulllistfills%
8533 }

8534 \newcommand*\{LWR@listend}{%
8535 \LWR@traceinfo{LWR@listend}%
8536 \LWR@stoppars%
8537 \LWR@closeprevious{list}%
8538 \LWR@startpars%
8539 }

```

## 74.2 Itemize

\LWR@itemizeitem [⟨label⟩]

Handles \item inside an itemize or enumerate.

The optional argument is passed to \LWR@origitem.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

8540 \newcommand*\{LWR@itemizeitem}{%
8541 \LWR@stoppars%
8542 \LWR@startnewdepth{listitem}%
8543 \LWR@htmltag{li}%
8544 \LWR@startpars%
8545 \LWR@origitem%
8546 }

```

Env itemize [⟨options⟩]

```

8547 \newcommand*{\LWR@itemizestart}{%
8548 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
8549 \renewcommand*{\LWR@printopenlist}{%
8550 ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8551 }%
8552 \LetLtxMacro\item{\LWR@itemizeitem}%
8553 \LWR@nulllistfills%
8554 }

```

### 74.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

Env `enumerate` [*<options>*]

```

8555 \newcommand*{\LWR@enumeratestart}{%
8556 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
8557 \renewcommand*{\LWR@printopenlist}{%
8558 ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8559 }%
8560 \LetLtxMacro\item{\LWR@itemizeitem}%
8561 \LWR@nulllistfills%
8562 }

```

### 74.4 Description

`\LWR@descitem` [*<label>*] Handles an `\item` inside a description.

```

8563 \newcommand*{\LWR@descitem}[1][]{%
8564 \LWR@stoppars%
8565 \LWR@setlatestname{#1}%
8566 \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```

8567 \begingroup%
8568 \let\LWR@orig@desc@makelabel\makelabel
8569 \renewcommand*{\makelabel}[1]{%
8570 \LWR@htmlltag{dt}%
8571 \LWR@orig@desc@makelabel{#1}%
8572 \LWR@htmlltag{/dt}%
8573 }
8574 \LWR@select@html@nohspace%
8575 \LWR@origitem[#1]%
8576 \endgroup%
8577 \LWR@orignewline%
8578 \LWR@htmlltag{dd}%
8579 \LWR@startpars%
8580 }

```

---

Env description [*<options>*]

Footnotes are modified to correctly parse optional arguments.

```

8581 \newcommand*{\LWR@descriptionstart}{%
8582 \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}
8583 \renewcommand*{\LWR@printopenlist}{\LWR@descitem}
8584 \LetLtxMacro\item{\LWR@descitem}
8585 \LWR@nulllistfills%
8586 }
```

## 74.5 Patching the lists

\LWR@patchlists Patches list environments.

\LWR@patchlists remembers \item as defined by whatever packages have been loaded, then patches the itemize, enumerate, and description environments and \item. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by enumitem, enumerate, and paralist.

```

8587 \newcommand*{\LWR@patchlists}{%
8588 \LetLtxMacro\item{\LWR@listitem}
8589 \LetLtxMacro\@item{\LWR@HTML@item}
8590 \renewcommand*{\@trivlist}{%
8591 \LWR@traceinfo{@trivlist start}%
8592 \LWR@liststart%
8593 \LWR@orig@trivlist%
8594 \LWR@traceinfo{@trivlist done}%
8595 }%
8596 \renewcommand*{\trivlist}{%
8597 \LWR@traceinfo{trivlist}%
8598 \LWR@origtrivlist%
8599 }%
8600 \renewcommand*{\endtrivlist}{%
8601 \LWR@traceinfo{endtrivlist start}%
8602 \LWR@origendtrivlist\LWR@listend%
8603 \LWR@traceinfo{endtrivlist done}%
8604 }%
8605 \renewcommand*{\itemize}{%
8606 \LWR@itemizestart\LWR@origitemize%
8607 }%
8608 \renewcommand*{\enumerate}{%
8609 \LWR@enumeratestart\LWR@origenumerate%
8610 }%
8611 \renewcommand*{\description}{%
8612 \LWR@descriptionstart\LWR@origdescription%
8613 }%
8614 }
```

\LWR@restoreoriglists Restores the original trivlist environment.

```
8615 \newcommand*{\LWR@restoreoriglists}{%
```

```

8616 \LWR@traceinfo{\LWR@restoreoriglists}%
8617 \LetLtxMacro\item{\LWR@origitem}%
8618 \LetLtxMacro\@item{\LWR@orig@item}%
8619 \let\@trivlist{\LWR@orig@trivlist}%
8620 \let\trivlist{\LWR@origtrivlist}%
8621 \let\endtrivlist{\LWR@origendtrivlist}%
8622 \LetLtxMacro\itemize{\LWR@origitemize}%
8623 \LetLtxMacro\enditemize{\LWR@endorigitemize}%
8624 \LetLtxMacro\enumerate{\LWR@origenumerate}%
8625 \LetLtxMacro\endenumerate{\LWR@endorigenumerate}%
8626 \LetLtxMacro\description{\LWR@origdescription}%
8627 \LetLtxMacro\enddescription{\LWR@endorigdescription}%
8628 \let\@mklab{\LWR@orig@mklab}%
8629 \let\makelabel{\LWR@origmakelabel}%
8630 \let\@donoparitem{\LWR@orig@donoparitem}%
8631 \let\@nbitem{\LWR@orig@nbitem}%
8632 }

8633 \end{warpHTML}

```

## 75 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L<sup>A</sup>T<sub>E</sub>X core and the various tabular-related packages.

### 75.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

#### Defining macros and environments:

⚠ Misplaced alignment tab character &

- When defining environments or macros which include tabular and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

```

\StartDefiningTabulars
<define macros or environments using tabular and & here>
\StopDefiningTabulars

```

⚠ floatrow

This includes before and after defining any macro which used \ttabbox from floatrow.

⚠ tabular inside another environment

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

---

```
\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars
```

**For developers:**

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of & before absorbing the arguments. Another environment may be embedded as well.
 

```
% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsoname}[2]{%
 ...
 \otherenvironmentname [<args>] {<args>} % for example
}

% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename}{%
 \StartDefiningTabulars
 \LWR@HTML@subsoname
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
 ...
 \endotherenvironmentname % for example
 \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}
```

**Cell contents:****⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.
 

```
\TabularMacro\somemacro & more row contents \\
```

**Column specifiers:****⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with lwarf. Instead, each cell must specify math mode individually.

**@ and !**

- Only one each of @ and ! is used at each column, and they are used in that order.

**\multirow**

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

⚠ `\newcolumntype`

- If `\newcolumntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumntype`.

**font and alignment**

- `lwarp` detects each of the following, and sets HTML CSS appropriately:

```
>{\centering\arraybackslash}
>{\raggedright\arraybackslash}
>{\raggedleft\arraybackslash}
>{\itshape}
>{\bfseries}
>{\bfseries\itshape}
```

These may be used with `\newcolumntype`, such as:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p[#1]}
```

### Rules:

**vertical rules**

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

**width and trim**

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

**combined rules**

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:

```
\cmidrule{2-3} \\[-2ex]
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

- For `\toprule` and `\bottomrule`, when combined with a `\warpprint` or `\warpHTML` environment, if a “Misplaced `\noalign`” error occurs, change

This & That `\endhead`

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

### Other:

**longtable headings**

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

- For S columns (from the `sirunitx` package), while producing print output, anything non-numeric must be placed inside {} braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

⚠ `S` columns

⚠ **tabular inside a <span>**

- In L<sup>A</sup>T<sub>E</sub>X, a tabular may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warprint` environment.

**for HTML output:** 8634 `\begin{warpHTML}`

## 75.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

### 75.2.1 `arydshln`

Emulated by the original L<sup>A</sup>T<sub>E</sub>X non-dashed versions.

```
8635 \LetLtxMacro\hdashline\hline
8636 \LetLtxMacro\cdashline\cline
8637 \LetLtxMacro\firsthdashline\hline
8638 \LetLtxMacro\lastdashline\hline
```

## 75.3 Token lookahead

Used by `\LWR@futureonospacelet` to look at the next token.

`\LWR@mynexttoken`

```
8639 \newcommand{\LWR@mynexttoken}{\relax}
```

`\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futureonospacelet` does the same, but ignores intervening white space

Based on the `booktabs` style:

`\LWR@futureonospacelet`

```
8640 \def\LWR@futureonospacelet#1{\def\LWR@cs{#1}%
8641 \afterassignment\LWR@fnslone\let\nexttoken= }
8642
8643 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
8644
8645 \def\LWR@fnsltwo{%
8646 \expandafter\ifx\LWR@cs\@sptoken\let\next=\LWR@fnslthree%
8647 \else\let\next=\nexttoken\fi\next}
8648
8649 \def\LWR@fnslthree{\afterassignment\LWR@fnslone\let\next= }
```

---

\LWR@getmynexttoken Looks ahead and copies the next token into \LWR@mynexttoken.

```

8650 \newcommand*{\LWR@getmynexttoken}{%
8651 \LWR@traceinfo{\LWR@getmynexttoken}%
8652 % nothing must follow this next line
8653 \LWR@futureonospacelet\LWR@mynexttoken\LWR@tabledatacolumntag
8654 }
```

## 75.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, etoolbox's \defcounter and lwarf's new \defaddtocounter are used.

Bool LWR@startedrow True if should print a row tag before this column.

```

8655 \newbool{\LWR@startedrow}
8656 \boolfalse{\LWR@startedrow}
```

Bool LWR@tabularcelladded True if have added a data cell for this position.

```

8657 \newbool{\LWR@tabularcelladded}
8658 \boolfalse{\LWR@tabularcelladded}
```

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

```
8659 \newcounter{\LWR@hlines}
```

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

```
8660 \newcounter{\LWR@hdashedlines}
```

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

```

8661 \newbool{\LWR@doingtbrule}
8662 \boolfalse{\LWR@doingtbrule}
```

Bool LWR@doingcmidrule True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

```

8663 \newbool{\LWR@doingcmidrule}
8664 \boolfalse{\LWR@doingcmidrule}
```

Bool LWR@tableparcell True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8665 \newbool{\LWR@tableparcell}
```

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
8666 \newbool{\LWR@skippingmrowcell}
```

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.

8667 \newbool{LWR@skippingmcolrowcell}

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

8668 \newbool{LWR@usedmultirow}

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

8669 \newbool{LWR@foundmrowcell}

Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

8670 \newbool{LWR@skipatbang}

Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.

8671 \newbool{LWR@emptyatbang}

Bool LWR@intabularmetadata True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.

8672 \newbool{LWR@intabularmetadata}

8673 \boolefalse{LWR@intabularmetadata}

Bool LWR@exittingtabular When \end is found, turns off the next opening data tag.

8674 \newbool{LWR@exittingtabular}

Bool LWR@tabularmutemods Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate \bottomrules.

8675 \newbool{LWR@tabularmutemods}

Bool LWR@validtablecol True if found a valid table column type.

8676 \newbool{LWR@validtablecol}

Bool LWR@opttablecol True if found a table column optional argument.

8677 \newbool{LWR@opttablecol}

Used to add a style to a table data cell:

8678 \newbool{LWR@tdhavecellstyle}

Ctr `LWR@tabularDepth` Tracks whether & is being used inside a tabular.

```
8679 \newcounter{LWR@tabulardepth}
8680 \setcounter{LWR@tabulardepth}{0}
```

Ctr `LWR@tabularpardepth` Tracks whether should look ahead at the next token when encountering a \par while processing tabular contents.

When `LWR@tabularpardepth` is deeper than `LWR@tabulardepth` then `lwarp` has started looking at the contents of the tabular, and thus any \pars encountered must be followed by another token lookahead.

```
8681 \newcounter{LWR@tabularpardepth}
8682 \setcounter{LWR@tabularpardepth}{0}
```

```
8683 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8684 \newcommand*{\LWR@pposition}{}%
8685 \newcommand*{\LWR@pleft}{}%
8686 \newcommand*{\LWR@pright}{}%
```

`LWR@tablecolspec` Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting @ and ! columns.

Will contain a string such as llrrccpc, exactly one letter per L<sup>A</sup>T<sub>E</sub>X table column, without @, !, >, <, or the vertical bar.

`\LWR@strresult` Holds the result of Str functions.

```
8687 \providecommand*{\LWR@strresult}{}%
8688 \providecommand*{\LWR@strresulttwo}{}%
```

`\LWR@origcolspec` Holds the original column specs given to tabular.

```
8689 \newcommand*{\LWR@origcolspec}{}%
```

Ctr `LWR@tablecolspecwidth` Holds the number of tokens in the table columns specification.

This is includes one for each @, !, <, > column, and also one for each of the parameters of p, @, !, <, > columns, and three for each D column.

(This is not the total # of L<sup>A</sup>T<sub>E</sub>X columns in the table.)

```
8690 \newcounter{LWR@tablecolspecwidth}
```

Ctr `LWR@tablecolspecindex` While parsing the L<sup>A</sup>T<sub>E</sub>X table column specification, starts at 1 and is incremented per token of the specification.

```
8691 \newcounter{LWR@tablecolspecindex}
```

Ctr `LWR@tableLaTeXcolindex` While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

---

8692 \newcounter{LWR@tableLaTeXcolindex}

Ctr LWR@tabletotalLaTeXcols While parsing a table column specification, begins at 0 and increments by 1 per *LATEX* table column. Eventually holds the final number of *LATEX* table columns in each row, not counting @ and ! columns. (In *HTML*, @ and ! cells become their own columns, but are not included in LWR@tabletotalLaTeXcols.)

8693 \newcounter{LWR@tabletotalLaTeXcols}

Ctr LWR@tabletotalLaTeXcolsnext Holds the next *LATEX* table column index while parsing, equal to one more than LWR@tabletotalLaTeXcolsnext.

8694 \newcounter{LWR@tabletotalLaTeXcolsnext}

LWR@colatspec A data array of specifications for @ columns. The leftmost's index is lefthead, the others are counter values. See section 42.

LWR@colbangspec A data array of specifications for ! columns. The leftmost's index is lefthead, the others are counter values. See section 42.

LWR@colbeforespec A data array of specifications for > columns.

LWR@colafterspec A data array of specifications for < columns.

LWR@colbarspec A data array of specifications for vertical rules.

LWR@coladdclass A data array of extra css class, as set by >.

Ctr LWR@cellcolordepth Counts how many cell color <div>s were added to the current tabular data cell.

8695 \newcounter{LWR@cellcolordepth}

#### 75.4.1 Multicolumn variables

8696 \newcounter{LWR@tablemulticolwidth}

Indexes into the multicolumn specification:

8697 \newcounter{LWR@tablemulticolpos}

Remembers multicolumn vertical rules if found in the column spec.

8698 \newcounter{LWR@mcolvertbarsl}

8699 \newcounter{LWR@mcolvertbarsr}

8700 \newcounter{LWR@mcolvertbarsldash}

8701 \newcounter{LWR@mcolvertbarsrdash}

8702 \newbool{LWR@mcolvertbaronleft}

#### 75.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable\*.

---

```
8703 \newbool{LWR@starredlongtable}
8704 \boolfalse{LWR@starredlongtable}
```

### 75.4.3 Midrule variables

`\ctr LWR@midrulecounter` Indexes across the `LWR@midrules` and `LWR@trim<l/r>rules` data arrays.

```
8705 \newcounter{LWR@midrulecounter}
```

## 75.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining `\&`, See:

<http://tex.stackexchange.com/questions/11638/>  
[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11860#11860)

`\LWR@insertatbangcols`

```
8706 \newcommand*{\LWR@insertatbangcols}{%
8707 \ifbool{LWR@skipatbang}{%
8708 {}%
8709 {%
8710 \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
8711 \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
8712 }%
8713 }%
```

`\LWR@closetabledatacell` If `LWR@skippingmrowcell` or `LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```
8714 \newcommand*{\LWR@closetabledatacell}{%
8715 \booltrue{LWR@intabularmetadata}%
8716 \ifbool{LWR@exittingtabular}{%
8717 {}%
8718 \LWR@stoppars%
8719 }%
8720 {%
8721 \ifboolexpr{\bool{LWR@skippingmrowcell} \or \bool{LWR@skippingmcolrowcell}}{%
8722 {}%
8723 \LWR@stoppars%
8724 }%
8725 }%
8726 {\LWR@insertatbangcols}%
8727 }
```

If not skipping a `\multicolumnrow` cell, insert the `@` and `!` columns after this non-existent column.

```
8724 \ifbool{LWR@skippingmcolrowcell}{%
8725 {}%
8726 {\LWR@insertatbangcols}%
8727 }
```

```

8727 }%
8728 {%
8729 \unskip%
8730 \ifboolexpr{%
8731 bool{LWR@tabularmutemods} or
8732 bool{LWR@skipatbang} or
8733 bool{LWR@emptyatbang}
8734 }%
8735 {}%
8736 {%
8737 \LWR@getexparray{\LWR@colaferspec}%
8738 {\arabic{\LWR@tableLaTeXcolindex}}%
8739 }%

```

Close paragraphs:

```

8740 \LWR@stopars%
8741 \boolfalse{\LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

8742 \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{{%
8743 \LWR@htmlltag{/div}\LWR@orignewline%
8744 \defaddtocounter{\LWR@cellcolordepth}{-1}%
8745 }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

8746 \leavevmode\unskip\LWR@htmlltag{/td}\LWR@orignewline%
8747 \global\booltrue{\LWR@tabularcelladded}%
8748 \LWR@insertatbangcols%
8749 }% not skipping mrowcell
8750 }% not exiting tabular
8751 \boolfalse{\LWR@skippingmrowcell}%
8752 \boolfalse{\LWR@skippingmcolrowcell}%
8753 \boolfalse{\LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

8754 \def\LWR@cellHTMLcolor{}%
8755 \def\LWR@columnHTMLcolor{}%
8756 \defcounter{\LWR@cellcolordepth}{0}%
8757 }

```

When not used inside a tabular, & performs its original function as recorded here (with catcode 4 ).

```

8758 \let\LWR@origampmacro&

```

---

```
8759 \end{warpHTML}
```

### 75.5.1 Handling &

**for HTML output:** 8760 \begin{warpHTML}

- & Will behave depending on whether it is being used inside `tabular`.
- & is redefined to test whether it is inside a `tabular` environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```
8761 \newcommand*{\LWR@tabularampersand}{%
8762 \LWR@traceinfo{\LWR@tabularampersand}%
8763 \ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}%
8764 {%
```

If not skipping a multirow cell, close the current data cell.

```
8765 \unskip%
8766 \LWR@closetabledatacell%
```

Move to the next column.

```
8767 \defaddtocounter{\LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```
8768 \global\boolfalse{\LWR@tabularcelladded}%

```

Look at the next token to decide multi or single column data tag.

```
8769 \LWR@getmynexttoken%
8770 }
```

If not inside a `tabular`, performs the original action:

```
8771 {%
8772 \LWR@origampmacro%
8773 }%
8774 }
```

& is left with its original catcode for now.

`tikz` package seems to require & be left alone until after `tikz` has been loaded. Also, `cleveref` uses the ampersand in one of its options.

& is made active inside a `tabular`.

& is left alone when in math alignments.

## 75.6 Filling an unfinished row

\LWR@tabularfinishrow Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8775 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8776 \ifboolexpr{%
8777 not bool{\LWR@exittingtabular} or%
8778 bool{\LWR@doingtbrule} or%
8779 bool{\LWR@doingscmidrule} or%
8780 test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8781 test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8782 bool{\LWR@startedrow}%
8783 }{%
```

To temporarily turn off \LWR@exittingtabular so that table data tags will still be generated:

If generating a final row for the \bottomrule borders, turn off the @, !, <, and > column output:

```
8784 \ifbool{\LWR@exittingtabular}{%
8785 \booltrue{\LWR@tabularmutemods}%
8786 }{%
8787 \boolfalse{\LWR@tabularmutemods}%
8788 }%
```

Locally reenable the table data tags until finished with the final row:

```
8789 \boolfalse{\LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8790 \whileboolexpr{%
8791 test{%
8792 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}{%
8793 \value{\LWR@tabletotalLaTeXcols}%
8794 } or %
8795 (%
8796 bool{\LWR@intabularmetadata} and%
8797 not bool{\LWR@tabularcelladded} and%
8798 test{%
8799 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{}
8800 \value{\LWR@tabletotalLaTeXcols}%
8801 }%
8802)%
8803 }%
8804 }{%
8805 \LWR@tabledatasinglecolumntag%
```

The following is essentially \LWR@tabularampersand with \LWR@emptyatbang added to empty the following cells:

```
8806 \LWR@closetabledatacell%
8807 \defaddtocounter{\LWR@tableLaTeXcolindex}{1}%
8808 \global\boolfalse{\LWR@tabularcelladded}%
8809 \booltrue{\LWR@emptyatbang}%
```

Starts the next cell:

```
8810 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}
8811 {\value{\LWR@tabletotalLaTeXcols}}%
8812 {\LWR@getmynexttoken}%
8813 {}%
8814 }%
```

Reenable the original \LWR@exitngtabular to close the entire table:

```
8815 \ifbool{\LWR@tabularmutemods}{%
8816 \booltrue{\LWR@exitngtabular}%
8817 }{%
8818 \boolfalse{\LWR@exitngtabular}%
8819 }%
8820 \boolfalse{\LWR@tabularmutemods}%

8821 \boolfalse{\LWR@emptyatbang}%
8822 }{}% ifboolexpr
8823 }
```

## 75.7 Handling \\

Inside tabular, \\ is redefined to \LWR@tabularendofline

Throws away options \\[dim] or \\\*

\LWR@tabularendofline

```
8824 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
8825 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}
8826 {\value{\LWR@tabletotalLaTeXcols}}%
8827 {\LWR@tabularfinishrow}%
8828 {\LWR@closetabledatacell}%
8829 \LWR@htmlltag{/tr}\LWR@newline%
```

xcolor row color support:

```
8830 \erowc@lors%
```

No longer inside a data cell:

```
8831 \booltrue{LWR@intabularmetadata}%
```

Not yet started a table row:

```
8832 \boolfalse{LWR@startedrow}%
```

Additional setup:

```
8833 \defcounter{LWR@hlines}{0}%
8834 \defcounter{LWR@hdashedlines}{0}%
8835 \boolfalse{LWR@doingtbrule}%
8836 \boolfalse{LWR@doingcmidrule}%
8837 \LWR@clearmidrules%
```

```
8838 \def\LWR@rowHTMLcolor{}%
```

Start at first column:

```
8839 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8840 \global\boolfalse{LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8841 \LWR@stoppars%
8842 \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8843 \LWR@getmynexttoken%
8844 }%
```

## 75.8 Looking ahead in the column specifications

\LWR@columnspeclookahead { $\langle offset \rangle$ }

Looks offset tokens ahead in the column specification, setting \LWR@strresulttwo.

The w column alignment will be seen as a single unit such as {c}.

```
8845 \newcommand*{\LWR@columnspeclookahead}[1]{%
8846 \setcounter{LWR@tempcountone}{\value{LWR@tablecolspecindex}}%
8847 \addtocounter{LWR@tempcountone}{#1}%
8848 \fullexpandarg%
8849 \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in `\LWR@strresulttwo`:

```
8850 \exploregroups%
8851 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8852 \noexploregroups%
8853 }
```

## 75.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8854 \newcommand*{\LWR@colparameter}{}{}
```

```
\LWR@parseatcolumn {\langle this column type\rangle}
```

Handles @{text} columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
8855 \newcommand*{\LWR@parseatcolumn}[1]{%
```

Move to the next token after the '@':

```
8856 \LWR@traceinfo{at column}%
8857 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token into `\LWR@colparameter`, expanding once:

```
8858 \LWR@traceinfo{about to read the next token:}%
8859 \expandarg%
8860 \StrChar{\LWR@origcolsindex}%
8861 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8862 \fullexpandarg%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```
8863 \LWR@traceinfo{have now read the next token}%
8864 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8865 {%
8866 \LWR@traceinfo{at the left edge}%
8867 \LWR@setexpparray{\LWR@colatspec}%
8868 {\leftedge}%
8869 {\expandafter\@firstofone\LWR@colparameter}%
8870 \LWR@traceinfo{at the left edge:} %
8871 \LWR@getexpparray{\LWR@colatspec}{\leftedge}%
8872 }%
8873 {%
8874 \LWR@traceinfo{not at the left edge}%
8875 \LWR@setexpparray{\LWR@colatspec}%
8876 {\arabic{\LWR@tabletotalLaTeXcols}}%
8877 {\expandafter\@firstofone\LWR@colparameter}%
8878 \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}}%
```

```

8879 : % space
8880 \LWR@getexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
8881 }%
8882 \let\LWR@colparameter\relax%
8883 \booltrue{\LWR@validtablecol}%
8884 }

```

\LWR@parsebangcolumn {*this column type*} Handles !{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
8885 \newcommand*\LWR@parsebangcolumn[1]{%
```

Move to the next token after the '!':

```

8886 \LWR@traceinfo{bang column}%
8887 \defaddtocounter{\LWR@tablecolsindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

8888 \LWR@traceinfo{about to read the next token:}%
8889 \expandarg%
8890 \StrChar{\LWR@origcolsindex}%
8891 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8892 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8893 \LWR@traceinfo{have now read the next token}%
8894 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8895 {% left edge of the table:
8896 \LWR@traceinfo{at the left edge}%
8897 \LWR@setexparray{\LWR@colbangspec}%
8898 {\leftedge}%
8899 {\expandafter\@firstofone\LWR@colparameter}%
8900 }%
8901 {% not at the left edge:
8902 \LWR@traceinfo{not at the left edge}%
8903 \LWR@setexparray{\LWR@colbangspec}%
8904 {\arabic{\LWR@tabletotalLaTeXcols}}%
8905 {\expandafter\@firstofone\LWR@colparameter}%
8906 \LWR@traceinfo{bang \arabic{\LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8907 }%
8908 \let\LWR@colparameter\relax%
8909 \booltrue{\LWR@validtablecol}%
8910 }

```

\LWR@checkbeforeaddclass {*compared csname*} {*css class to add*}

```

8911 \newcommand*\LWR@checkbeforeaddclass[2]{%
8912 \ifcsstreq{\LWR@tempone}{#1}%
8913 {%
8914 \LWR@setexparray{\LWR@coladdclass}%

```

---

```

8915 {\arabic{LWR@tabletotalLaTeXcolsnext}}%
8916 { #2}%
8917 }{}%
8918 }

```

\LWR@checkmathcolpar Error if using math in column parameters.

```

8919 \newcommand*{\LWR@checkmathcolpar}{%
8920 \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWRdollar}{%
8921 {%
8922 \PackageError{lwarp}{%
8923 Lwarp does not support '$' in column specifiers.\MessageBreak
8924 Specify '$' math for each cell in the column.\MessageBreak
8925 Enter 'h' for more info%}
8926 }%
8927 {%
8928 {%
8929 For example, replace '>{$}c<{$}' with 'c', and then\MessageBreak
8930 use '$cell contents$' for each cell in the column.%}
8931 }%
8932 }{}%
8933 }

```

\LWR@parsebeforecolumn {*this column type*}

Handles >{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
8934 \newcommand*{\LWR@parsebeforecolumn}[1]{%
```

Move to the next token after the '>':

```
8935 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

8936 \expandarg%
8937 \StrChar{\LWR@origcolspec}%
8938 {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8939 \fullexpandarg%

```

Error if using >{\$}, which is not supported by lwarp.

```
8940 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8941 \LWR@setexpararray{LWR@colbeforespec}%
8942 {\arabic{LWR@tabletotalLaTeXcolsnext}}%
8943 {\expandafter\@firstofone\LWR@colparameter}%
8944 %
8945 \edef\LWR@tempone{\expandafter\@firstofone\LWR@colparameter}%

```

If detect >{\centering\arraybackslash} or related, add a css class.

```

8946 \LWR@checkbeforeaddclass{\LWR@detect@centeringarraybackslash}{tdcenter}
8947 \LWR@checkbeforeaddclass{\LWR@detect@raggedrightarraybackslash}{tdleft}
8948 \LWR@checkbeforeaddclass{\LWR@detect@raggedleftarraybackslash}{tdright}
8949 \LWR@checkbeforeaddclass{\LWR@detect@itshape}{tditshape}
8950 \LWR@checkbeforeaddclass{\LWR@detect@bfseries}{tdbfseries}
8951 \LWR@checkbeforeaddclass{\LWR@detect@bfit}{tdbfit}

8952 \let\LWR@colparameter\relax%
8953 \booltrue{\LWR@validtablecol}%
8954 }

```

\LWR@parseaftercolumn {*this column type*}

Handles <{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
8955 \newcommand*{\LWR@parseaftercolumn}[1]{%
```

Move to the next token after the '<':

```
8956 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

8957 \expandarg%
8958 \StrChar{\LWR@origcolspec}%
8959 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8960 \fullexpandarg%

```

Error if using >{\$}, which is not supported by lwarp.

```
8961 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8962 \LWR@setexparray{\LWR@col afterspec}%
8963 {\arabic{\LWR@tabletotalLaTeXcols}}%
8964 {\expandafter\@firstofone\LWR@colparameter}%
8965 \let\LWR@colparameter\relax%
8966 \booltrue{\LWR@validtablecol}%
8967 }

```

\LWR@parsebarcolumn {*this column type*}

Handles vertical rules.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```

8968 \newcommand*{\LWR@parsebarcolumn}[1]{%
8969 \LWR@traceinfo{\LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

8970 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8971 {% left edge of the table:
8972 \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{leftedge}}%
8973 \ifdefstring{\LWR@tempone}{tvertbarl}%
8974 {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8975 {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
8976 }%
8977 {% not at the left edge:
8978 \edef\LWR@tempone{%
8979 \LWR@getexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8980 }%
8981 \ifdefstring{\LWR@tempone}{tvertbarr}%
8982 {%
8983 \LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
8984 {%
8985 \LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8986 {%
8987 \LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8988 }%
8989 }%
8990 }%
8991 \booltrue{LWR@validtablecol}%
8992 }
```

\LWR@parsecoloncolumn {*this column type*}

Handles vertical rules.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```

8993 \newcommand*{\LWR@parsecoloncolumn}[1]{%
8994 \LWR@traceinfo{LWR@parsecoloncolumn}%
```

Remember the bar at this position:

```

8995 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8996 {% left edge of the table:
8997 \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{leftedge}}%
8998 \ifdefstring{\LWR@tempone}{tvertbarldash}%
8999 {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
9000 {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
9001 }%
9002 {% not at the left edge:
9003 \edef\LWR@tempone{%
9004 \LWR@getexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9005 }%
9006 \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9007 {\LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
9008 {%
9009 \LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
9010 }%
9011 }%
```

```
9012 \booltrue{LWR@validtablecol}%
9013 }
```

\LWR@parsesemicoloncolumn {*this column type*}

Handles vertical rules.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

The arguments to the column type are absorbed by \LWR@columntype@<char>, defined by \LWR@modifycolumntype.

```
9014 \newcommand*\LWR@parsesemicoloncolumn[1]{%
```

Treat ; as a : column:

```
9015 \LWR@parsecoloncolumn{}%
9016 }
```

## 75.10 Parsing common column types

\LWR@parsenormalcolumn {*this column type*}

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

\newcolumntype definitons use \LWR@parsenormalcolumn, so an HTML and print version are given so that they may work inside a `lateximage`.

The arguments to the column type are absorbed by \LWR@columntype@<char>, defined by \LWR@modifycolumntype.

```
9017 \newcommand*\LWR@HTML@LWR@parsenormalcolumn[1]{%
9018 \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
9019 \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%
9020 \LWR@setexpparray{LWR@tablecols}{\arabic{LWR@tabletotalLaTeXcols}}{\#1}%
9021 \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
9022 \LWR@setexpparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9023 \LWR@setexpparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9024 \LWR@setexpparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9025 \LWR@setexpparray{LWR@col afterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9026 \LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9027 \LWR@setexpparray{LWR@coladdclass}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9028 \booltrue{LWR@validtablecol}%
9029 }
9030
9031 \newcommand*\LWR@print@LWR@parsenormalcolumn[1]{}%
9032
9033 \LWR@formatted{LWR@parsenormalcolumn}
```

## 75.11 Parsing ‘w’ columns

\LWR@parsewcolumn {*this column type*} The width will be ignored.

The arguments to the column type are absorbed by \LWR@columntype@<char>, defined by \LWR@modifycolumntype.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
9034 \newcommand*{\LWR@parsewcolumn}[1]{%
9035 \LWR@columnspeclookahead{1}%
9036 \expandafter\lWR@parsenormalcolumn\expandafter{\LWR@strresulttwo}%
9037 }
```

## 75.12 Parsing ‘\*’ columns

\LWR@parsestarcolumn {*this column type*} Star columns should already have been expanded, so this should never be used.

The arguments to the column type are absorbed by \LWR@columntype@<char>, defined by \LWR@modifycolumntype.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```
9038 \newcommand*{\LWR@parsestarcolumn}[1]{}
```

## 75.13 Expanding the star column specifications

\LWR@expandpreamble {*tabular preamble*}

From array \mkpream.

The resulting expanded preamble is stored in \the\temptokena. Assign as:

```
\edef\destination{\the\temptokena}

9039 \newcommand*{\LWR@expandpreamble}[1]{%
9040 \edef\@tempa{\@temptokena={#1}}%
9041 \@tempa%
9042 \@tempswatrue%
9043 \@whilesw@if@tempswa\fi{%
9044 \@tempswafalse\the\NC@list%
9045 }%
9046 }
```

## 75.14 Parsing the column specifications

 **tabular baselines** HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 13

Table 13: Tabular baseline

| l | p   | m   | b   | r   |
|---|-----|-----|-----|-----|
|   |     |     | bot |     |
|   |     |     | mid | bot |
| 1 | par | mid | bot | r   |
|   | par | mid |     |     |
|   |     | par |     |     |

shows the L<sup>A</sup>T<sub>E</sub>X results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

```
\LWR@modifycolumntype {<1: column type letter>} {<2: number args to ignore>} {<3: csname of the cell action>} {<4: csname of the multicolumn print type action>} {<5: csname of the multicolumn print data action>}
```

Add HTML functionality to an existing print version column type.

```
9047 \newcommand*{\LWR@modifycolumntype}[5]{%
9048 \LWR@traceinfo{\LWR@modifycolumntype !#1!#2!#3!#4!#5!}%
9049 \LWR@traceinfo{\LWR@modifycolumntype #1}%
9050 \edef\@tempa{%
9051 \noexpand\csdef{\LWR@columntype@#1}{%
9052 \noexpand\@nameuse{#3}{#1}%
9053 \noexpand\def\@tempa{\addtocounter{\LWR@tablecolsindex}{#2}}%
9054 }%
9055 \noexpand\csdef{\LWR@columntype@mctype@#1}{%
9056 \noexpand\@nameuse{#4}{#1}}%
9057 }%
9058 \noexpand\csdef{\LWR@columntype@madata@#1}{%
9059 \noexpand\@nameuse{#5}{#2}}%
9060 }%
9061 }%
9062 \@tempa%
9063 \LWR@traceinfo{\LWR@modifycolumntype done}%
9064 }

9065 \LWR@modifycolumntype{l}{0}{\LWR@parsenormalcolumn}
9066 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9067
9068 \LWR@modifycolumntype{c}{0}{\LWR@parsenormalcolumn}
9069 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9070
9071 \LWR@modifycolumntype{r}{0}{\LWR@parsenormalcolumn}
9072 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<columntype>`.

---

**l, r, c:** Converted to table cells without paragraph tags.

Uses css `vertical-align:middle` so that top or bottom-aligned cells may go above or below this cell.

**p:** Converted to table cells with paragraph tags. Ref: Table 13, L<sup>A</sup>T<sub>E</sub>X places the top line of a parbox aligned with the rest of the text line, so css `vertical-align:bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate L<sup>A</sup>T<sub>E</sub>X baselines.

**m:** With paragraph tags, css `vertical-align:middle`.

**b:** With paragraph tags, css `vertical-align:top` so that the bottom of the text is closest to the middle of the text line.

**w and W:** Converted to l, c, or r. No paragraph tags.

**P, M, B:** Horizontally-centered versions.

**S:** Treated as 'c'. Ignores optional argument. From the `siunitx` package.

**D:** Treated as 'c'. From the `dcolumn` package.

**@, !, >, <:** One each, in that order.

**|:** Vertical rule.

**Unknown:** Converted to 'l'.

**\newcolumntype:** Expands to its replacement text.

**\HTMLnewcolumntype:** Provides simplified replacement text for HTML.

---

Table 15: HTML column type internal macros

---

**<coltype>**: The single-letter column type, such as c or X.

**Created by \LWR@modifycolumntype**: Used by lwarp to add HTML functionality to each built-in column type.

**\LWR@columntype@<coltype>**: Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolspecindex.

**\LWR@columntype@mctype@<coltype>**: Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

**\LWR@columntype@madata@<coltype>**: Generates the \multicolumn HTML cell data. Calls \LWR@printmcldata@normal or related.

**Created by \newcolumntype**: From array.

**\NC@find@<coltype>**: Internally used to parse the column specifier.

**\NC@rewrite@<coltype>**: Stores the print-mode replacement text.

**Created by \HTMLnewcolumntype**: From lwarp.

**\LWR@print@NC@rewrite@<coltype>**: Copied from \NC@rewrite@<type>.

**\LWR@HTML@NC@rewrite@<coltype>**: Stores the HTML-mode replacement text.

**\NC@rewrite@<coltype>**: Redefined to use the print or HTML version.

---

```

9073 \LWR@modifycolumntype{@}{0}{\LWR@parseatcolumn}
9074 {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9075
9076 \LWR@modifycolumntype{!}{0}{\LWR@parsebangcolumn}
9077 {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9078
9079 \LWR@modifycolumntype{>}{0}{\LWR@parsebeforecolumn}
9080 {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9081
9082 \LWR@modifycolumntype{<}{0}{\LWR@parseaftercolumn}
9083 {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}
9084
9085 \LWR@modifycolumntype{|}{0}{\LWR@parsebarcolumn}
9086 {\LWR@printmccoltype@vertbar}{\LWR@printmccoldata@skip}
9087
9088 \LWR@modifycolumntype{:}{0}{\LWR@parsecoloncolumn}
9089 {\LWR@printmccoltype@colon}{\LWR@printmccoldata@skip}
9090
9091 \LWR@modifycolumntype{;}{1}{\LWR@parsesemicoloncolumn}
9092 {\LWR@printmccoltype@semicolon}{\LWR@printmccoldata@skip}

9093 \LWR@modifycolumntype{p}{1}{\LWR@parsenormalcolumn}
9094 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@paragraph}
9095
9096 \LWR@modifycolumntype{m}{1}{\LWR@parsenormalcolumn}
9097 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@paragraph}
9098
9099 \LWR@modifycolumntype{b}{1}{\LWR@parsenormalcolumn}
9100 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@paragraph}

9101 \LWR@modifycolumntype{w}{2}{\LWR@parsewcolumn}
9102 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}
9103
9104 \LWR@modifycolumntype{W}{2}{\LWR@parsewcolumn}
9105 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}

```

A star column:

```

9106 \LWR@modifycolumntype{*}{2}{\LWR@parsestarcolumn}
9107 {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@skip}

```

\HTMLnewcolumntype {⟨col type⟩} [⟨num args⟩] {⟨replacement text⟩}

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@⟨columntype⟩}[⟨num args⟩]
 {\NC@find ⟨replacement text⟩}
 \LWR@formatted{NC@rewrite@⟨columntype⟩}

```

```

9108 \NewDocumentCommand{\HTMLnewcolumntype}{m O{0} m}{%
9109 \expandafter\newcommand\expandafter*%
9110 \csname LWR@HTML@NC@rewrite@\#1\endcsname[\#2]{\NC@find #3}%
9111 \LWR@formatted{NC@rewrite@\#1}%
9112 }

9113 \end{warpHTML}

for PRINT output: 9114 \begin{warpprint}

9115 \NewDocumentCommand{\HTMLnewcolumntype}{m O{0} m}{}

9116 \end{warpprint}

for HTML output: 9117 \begin{warpHTML}

\LWR@parsetablecols {<colspecs>}

```

Scans the column specification left to right.

Builds \LWR@tablecols with the final specification, one  $\text{\LaTeX}$  column per entry. The final number of  $\text{\LaTeX}$  columns in each row is stored in \LWR@tabletotalLaTeXcols, which is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```

9118 \newcommand*{\LWR@parsetablecols}[1]{%
9119 \LWR@traceinfo{\LWR@parsetablecols}%

```

Remember the original supplied column spec:

```
9120 \renewcommand*{\LWR@origcolspec}{#1}%

```

Remove spaces:

```

9121 \expandarg%
9122 \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]%

```

Expand any star columns:

```

9123 \LWR@expandpreamble{\LWR@origcolspec}%
9124 \edef\LWR@origcolspec{\the\@temptokena}%

```

The parsed column spec data array, \LWR@tablecols, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```

9125 \defcounter{\LWR@tabletotalLaTeXcols}{0}%
9126 \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}%
9127 \LWR@setexpparray{\LWR@colatstype}{leftedge}{}%
9128 \LWR@setexpparray{\LWR@colatstype}{1}{}

```

```

9129 \LWR@setexparray{\LWR@colat{spec}{2}{}}%
9130 \LWR@setexparray{\LWR@colat{spec}{3}{}}%
9131 \LWR@setexparray{\LWR@colbang{spec}{leftedge}{}}%
9132 \LWR@setexparray{\LWR@colbang{spec}{1}{}}%
9133 \LWR@setexparray{\LWR@colbang{spec}{2}{}}%
9134 \LWR@setexparray{\LWR@colbang{spec}{3}{}}%
9135 \LWR@setexparray{\LWR@colbefore{spec}{1}{}}%
9136 \LWR@setexparray{\LWR@colbefore{spec}{2}{}}%
9137 \LWR@setexparray{\LWR@colbefore{spec}{3}{}}%
9138 \LWR@setexparray{\LWR@colafters{spec}{1}{}}%
9139 \LWR@setexparray{\LWR@colafters{spec}{2}{}}%
9140 \LWR@setexparray{\LWR@colafters{spec}{3}{}}%
9141 \LWR@setexparray{\LWR@colbars{spec}{leftedge}{}}%
9142 \LWR@setexparray{\LWR@colbars{spec}{1}{}}%
9143 \LWR@setexparray{\LWR@colbars{spec}{2}{}}%
9144 \LWR@setexparray{\LWR@colbars{spec}{3}{}}%
9145 \LWR@setexparray{\LWR@coladd{class}{1}{}}%
9146 \LWR@setexparray{\LWR@coladd{class}{2}{}}%
9147 \LWR@setexparray{\LWR@coladd{class}{3}{}}%

```

Starting at the first column specification:

```
9148 \defcounter{\LWR@tablecolsindex}{1}%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

9149 \expandarg%
9150 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9151 \fullexpandarg%
9152 \LWR@traceinfo{original column spec length: \LWR@strresult}%
9153 \defcounter{\LWR@tablecolswidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```
9154 \boolfalse{\LWR@opttablecol}%
```

Scan through the column specifications:

```

9155 \whileboolexpr{%
9156 not \test{%
9157 \ifnumcomp{\value{\LWR@tablecolsindex}}{>}{}
9158 {\value{\LWR@tablecolswidth}}%
9159 }%
9160 }%
9161 {%

```

Place the next single-character column type into `\LWR@strresult`:

```

9162 \expandarg%
9163 \StrChar{\LWR@origcolspec}{\arabic{\LWR@tablecolsindex}}[\LWR@strresult]%
9164 \LWR@traceinfo{position \arabic{\LWR@tablecolsindex}: \LWR@strresult}%
9165 \fullexpandarg%

```

Not yet found a valid column type:

```
9166 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `siunitx S` column:

```
9167 \IfStrEq{\LWR@strresult}{[]}{\booltrue{LWR@opttablecol}}{}
```

Throw away anything found inside the optional argument:

```
9168 \ifbool{LWR@opttablecol}{%
9169 {}% inside an optional argument
9170 {}% not an optional tabular argument
}
```

Not inside an optional argument, so consider the column type:

```
9171 \ifcsdef{LWR@columntype@\LWR@strresult}{%
9172 {\csuse{LWR@columntype@\LWR@strresult}}%
9173 {}%
```

If an unknown column type, use `l`:

```
9174 \ifbool{LWR@validtablecol}{}{%
9175 \LWR@traceinfo{invalid column type: \LWR@strresult}%
9176 \LWR@parsenormalcolumn{l}%
9177 {}%
9178 }% not an optional column argument
}
```

If read the closing bracket, no longer inside the optional argument:

```
9179 \IfStrEq{\LWR@strresult}{[]}{\boolfalse{LWR@opttablecol}}{}
```

Move to the next character:

```
9180 \defaddtocounter{LWR@tablecolsindex}{1}%
9181 {}% whiledo
9182 }
```

## 75.15 `colortbl` and `xcolor` tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the `HTML` colors below, the text for the `HTML` color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```
9183 \@ifndef{\rownum}{\newcount\rownum{}}
```

\@rowcolors Emulated in case **xcolor** is not used.

```
9184 \newcommand*{\@rowcolors}{}%
```

\@rowc@lors Emulated in case **xcolor** is not used.

```
9185 \newcommand*{\@rowc@lors}{}%
```

\LWR@xcolorrowHTMLcolor Emulated **xcolor** row color.

```
9186 \newcommand*{\LWR@xcolorrowHTMLcolor}{}%
```

\LWR@columnHTMLcolor HTMLstyle code for the column color.

```
9187 \def\LWR@columnHTMLcolor{}%
```

\LWR@rowHTMLcolor HTMLstyle code for the row color.

```
9188 \def\LWR@rowHTMLcolor{}%
```

\LWR@cellHTMLcolor HTMLstyle code for the cell color.

```
9189 \def\LWR@cellHTMLcolor{}%
```

\LWR@ruleHTMLcolor HTMLstyle code for the rule color.

```
9190 \newcommand*{\LWR@ruleHTMLcolor}{}%
```

\rowcolor [⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩] Print version. The HTML version is in **lwarp-colortbl**. Used before starting a tabular data cell, thus \LWR@getmynexttoken.

```
9191 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

\arrayrulecolor [⟨model⟩] {⟨color⟩}

\arrayrulecolornexttoken [⟨model⟩] {⟨color⟩}

Print versions for use outside and inside a tabular:

```
9192 \newcommand{\arrayrulecolor}[2][named]{}%
```

```
9193 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}%
```

\doublerulesepcolor [⟨model⟩] {⟨color⟩}

\doublerulesepcolornexttoken [⟨model⟩] {⟨color⟩}

Print versions for use inside and outside a tabular:

```
9194 \newcommand{\doublerulesepcolor}[2][named]{}%
```

```
9195 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}%
```

## 75.16 Starting a new row

\LWR@maybenewtablerow If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for hline or tbrule if necessary.

```
9196 \newcommand*{\LWR@maybenewtablerow}{%
9197 {%
9198 \ifbool{\LWR@startedrow}{%
9199 {}% started the row
9200 {}% not started the row
9201 \booltrue{\LWR@startedrow}%
9202 \ifboolexpr{%
9203 \ifnumcomp{\value{\LWR@hlines}}{>}{0}{} or%
9204 \ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}{}%
9205 }{%
9206 }%
9207 \LWR@htmltag{tr class=\textquotedbl{}hline\textquotedbl }%
9208 \LWR@orignewline%
9209 }%
9210 \ifbool{\LWR@doingtbrule}{%
9211 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9212 \LWR@htmltag{tr class=\textquotedbl{}tbrule\textquotedbl }%
9213 }{%
9214 \LWR@htmltag{%
9215 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9216 style=\textquotedbl{}border-top: 1px solid % space
9217 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9218 }%
9219 }%
9220 \LWR@orignewline%
9221 }%
9222 }%
9223 \LWR@orignewline%
9224 }%
9225 {\LWR@htmltag{tr}\LWR@orignewline}%
9226 }% end of not doing hline
9227 }% end of not started the row
9228 }
```

Remember that now have started the row:

```
9201 \booltrue{\LWR@startedrow}%
9202 \ifboolexpr{%
9203 \ifnumcomp{\value{\LWR@hlines}}{>}{0}{} or%
9204 \ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}{}%
9205 }{%
9206 }%
9207 \LWR@htmltag{tr class=\textquotedbl{}hline\textquotedbl }%
9208 \LWR@orignewline%
9209 }%
9210 \ifbool{\LWR@doingtbrule}{%
9211 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9212 \LWR@htmltag{tr class=\textquotedbl{}tbrule\textquotedbl }%
9213 }{%
9214 \LWR@htmltag{%
9215 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9216 style=\textquotedbl{}border-top: 1px solid % space
9217 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9218 }%
9219 }%
9220 \LWR@orignewline%
9221 }%
9222 }%
9223 \LWR@orignewline%
9224 }%
9225 {\LWR@htmltag{tr}\LWR@orignewline}%
9226 }% end of not doing hline
9227 }% end of not started the row
9228 }
```

Create the row tag, with a class if necessary.

```
9202 \booltrue{\LWR@intabularmetadata}%
9203 \ifboolexpr{%
9204 \test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}{} or%
9205 \test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}{}%
9206 }{%
9207 }%
9208 \LWR@htmltag{tr class=\textquotedbl{}hline\textquotedbl }%
9209 \LWR@orignewline%
9210 }%
9211 \ifbool{\LWR@notdoinghline}{%
9212 \ifbool{\LWR@doingtbrule}{%
9213 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9214 \LWR@htmltag{tr class=\textquotedbl{}tbrule\textquotedbl }%
9215 }{%
9216 \LWR@htmltag{%
9217 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9218 style=\textquotedbl{}border-top: 1px solid % space
9219 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9220 }%
9221 }%
9222 }%
9223 \LWR@orignewline%
9224 }%
9225 {\LWR@htmltag{tr}\LWR@orignewline}%
9226 }% end of not doing hline
9227 }% end of not started the row
9228 }
```

## 75.17 Printing vertical bar tags

\LWR@printbartag {\langle index\rangle}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```
9229 \newcommand*{\LWR@printbartag}[1]{%
```

```

9230 \LWR@traceinfo{\LWR@printbartag !#1!}%
9231 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9232 {}% muting or empty
9233 {% not muting
9234 \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{#1}}%
9235 \ifdefempty{\LWR@tempone}{}{\LWR@tempone}%
9236 }% not muting
9237 \LWR@traceinfo{\LWR@printbartag done}%
9238 }

```

## 75.18 Printing @ or ! tags

\LWR@printatbang {*at—or—bang*} {*index*}

```
9239 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

9240 \xdef\LWR@atbangspec{\LWR@getexparray{\LWR@col#1spec}{#2}}%
9241 \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9242 \ifdefempty{\LWR@atbangspec}%
9243 {}%
9244 {% not empty
9245 \LWR@htmltag{%
9246 td class=\textquotedbl{}td#1%
9247 \LWR@subaddcmidruletrim{}{}%
9248 \LWR@printbartag{#2}%
9249 \textquotedbl{}%
9250 \LWR@tdstartstyles%
9251 \LWR@addcmidrulewidth%
9252 \LWR@addcdashline%
9253 \LWR@addtabularrulecolors%
9254 \LWR@tdendstyles%
9255 }%

```

Create an empty cell if muting for the \bottomrule:

```

9256 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9257 {}%
9258 {\LWR@atbangspec}%
9259 %
9260 \LWR@htmltag{/td}\LWR@orignewline%
9261 \global\booltrue{\LWR@tabularcelladded}%
9262 }% not empty
9263 }%

```

\LWR@addleftmostbartag

```

9264 \newcommand*{\LWR@addleftmostbartag}{%
9265 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
9266 \LWR@printbartag{leftedge}%
9267 }{}%
9268 }

\LWR@tabularleftedge

9269 \newcommand*{\LWR@tabularleftedge}{%
9270 \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
9271 \LWR@printatbang{at}{leftedge}%
9272 \LWR@printatbang{bang}{leftedge}%
9273 }% left edge
9274 {}% not left edge
9275 }
9276 }
```

## 75.19 Cell opening tag

\LWR@thiscolspec Temporary storage.

```
9277 \newcommand*{\LWR@thiscolspec}{}%
```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```

9278 \newcommand*{\LWR@tabledatasinglecolumntag}{%
9279 {}%
9280 \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
9281 \LWR@maybenewtablerow%
```

Don't start a new paragraph tag if have already started one:

```

9282 \ifbool{\LWR@intabularmetadata}{}%
9283 {}%
```

If have found the end of tabular command, do not create the next data cell:

```

9284 \ifbool{\LWR@exittingtabular}{}{}%
9285 {}% not exiting tabular
```

Print the @ and ! contents before first column:

```
9286 \LWR@tabularleftedge%
```

Fetch the current column's alignment character into \LWR@strresult:

```

9287 \xdef\LWR@strresult{%
9288 \LWR@getexparray{\LWR@tablecolspe}{\arabic{\LWR@tableLaTeXcolindex}}}%
9289 }%
```

Print the start of a new table data cell:

```
9290 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to print td tag}%
9291 \LWR@htmltag{%
9292 td class=\textquotedbl{}td%
```

Append this column's spec:

```
9293 \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9294 \LWR@addcmidruletrim%
9295 \LWR@addleftmostbartag%
9296 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9297 \LWR@getexparray{\LWR@coladdclass}%
9298 {\arabic{\LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9299 \textquotedbl{}%
```

Add styles for rules, alignment:

```
9300 \LWR@tdstartstyles%
9301 \LWR@addcmidrulewidth%
9302 \LWR@addcdashline%

9303 \xdef\LWR@thiscolspe{%
9304 \LWR@getexparray{\LWR@tablecolspe}%
9305 {\arabic{\LWR@tableLaTeXcolindex}}%
9306 }%
9307 \LWR@addformatwpalignment{\LWR@thiscolspe}%
```

Add styles for cell and rule colors:

```
9308 \LWR@addtabularrowcolor%
9309 \LWR@addtabularrulecolors%

9310 \LWR@tdendstyles%
9311 }% HTML td
9312 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```
9313 \ifboolexpr{%
9314 test{ \ifdefstring{\LWR@strresult}{p} } or
9315 test{ \ifdefstring{\LWR@strresult}{m} } or
```

```

9316 test{ \ifdefstring{\LWR@strresult}{b} }
9317 }%
9318 {%
9319 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to \LWR@startpars}%
9320 \booltrue{\LWR@tableparcell}%
9321 \LWR@startpars%
9322 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done with \LWR@startpars}%
9323 }%
9324 {} no pars

```

Print the > contents unless muted for the \bottomrule:

```

9325 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9326 {}%
9327 {%
9328 \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
9329 }%
9330 \boolfalse{\LWR@intabularmetadata}%
9331 }% not exiting tabular
9332 }{}% in tabular metadata
9333 \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
9334 }%

```

## 75.20 Midrules

`\LWR@midrules` `\LWR@midrules` is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.

`\LWR@trimlrules` `\LWR@trimlrules` is a data array (section 42) of columns containing `l` if a midrule should be left trimmed for each column.

`\LWR@trimrrules` `\LWR@trimrrules` is a data array (section 42) of columns containing `r` if a midrule should be right trimmed for each column.

`\LWR@cdashlines` `\LWR@cdashlines` is a data array (section 42) of columns each containing a `Y` if an `arydshln` package "cdashed line" should be created for this column.

`\LWR@heavyrulewidth` The default width of the rule.

```

9335 \newlength{\LWR@heavyrulewidth}
9336 \setlength{\LWR@heavyrulewidth}{.08em}

```

`\LWR@lightrulewidth` The default width of the rule.

```

9337 \newlength{\LWR@lightrulewidth}
9338 \setlength{\LWR@lightrulewidth}{.05em}

```

`\LWR@cmidrulewidth` The default width of the rule.

```

9339 \newlength{\LWR@cmidrulewidth}
9340 \setlength{\LWR@cmidrulewidth}{.03em}

```

`\LWR@thiscmidrulewidth` The width of the next rule, defaulting to `\LWR@cmidrulewidth`.

If not `\LWR@cmidrulewidth`, a style will be used to generate the custom width.

Assigned from the `LWR@midrules` array.

```
9341 \newlength{\LWR@thiscmidrulewidth}
9342 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\``.

Clears all `LWR@midrules` and `LWR@trimrules` markers for this line.

```
9343 \newcommand*{\LWR@clearmidrules}
9344 {%
9345 \defcounter{LWR@midrulecounter}{1}%
9346 \whileboolexpr{%
9347 not test{%
9348 \ifnumcomp{\value{LWR@midrulecounter}}{>}{%
9349 {\value{LWR@tabletotalLaTeXcols}}%
9350 }%
9351 }%
9352 {%
9353 \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
9354 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9355 \LWR@setexpparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
9356 \LWR@setexpparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9357 \LWR@setexpparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9358 \defaddtocounter{LWR@midrulecounter}{1}%
9359 }%
9360 }
```

`\LWR@subcmidrule` `{<width>} {<trim>} {<leftcolumn>} {<rightcolumn>}`

Marks `LWR@midrules` data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```
9361 \newcommand*{\LWR@subcmidrule}[4]{%
9362 \defcounter{LWR@midrulecounter}{#3}%
9363 \whileboolexpr{%
9364 not test {%
9365 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}{%
9366 }%
9367 }%
9368 {%
9369 \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9370 \defaddtocounter{LWR@midrulecounter}{1}%
9371 }% whiledo
9372 \IfSubStr{#2}{l}{\LWR@setexpparray{LWR@trimlrules}{#3}{l}}{}%
9373 \IfSubStr{#2}{r}{\LWR@setexpparray{LWR@trimrrules}{#4}{r}}{}%
9374 \booltrue{LWR@doingcmidrule}%
9375 }
```

---

```
\LWR@docmidrule [⟨width⟩] (⟨trim⟩) {⟨leftcolumn-rightcolumn⟩}
```

Marks LWR@midrules array elements to be a non-zero width from left to right columns.  
Also marks trimming for the L and/or R columns.

```
9376 \NewDocumentCommand{\LWR@docmidrule}{%
9377 O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}m}%
9378 {\LWR@subcmidrule{#1}{#2}#3}}
```

```
\LWR@subcdashline {⟨leftcolumn⟩} {⟨rightcolumn⟩}
```

Marks LWR@cdashlines data array elements to be Y from left to right columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
9379 \newcommand*{\LWR@subcdashline}[2]{%
9380 \defcounter{LWR@midrulecounter}{#1}%
9381 \whileboolexpr{%
9382 not test {%
9383 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
9384 }%
9385 }%
9386 {%
9387 \LWR@setexpparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
9388 \defaddtocounter{LWR@midrulecounter}{1}%
9389 }% whiledo
9390 \booltrue{LWR@doingcmidrule}%
9391 }
```

```
\LWR@docdashline {⟨leftcolumn-rightcolumn⟩}
```

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```
9392 \NewDocumentCommand{\LWR@docdashline}{%
9393 >{\SplitArgument{1}{-}m}%
9394 {%
9395 \LWR@subcdashline#1%
9396 }}
```

```
\LWR@tdstartstyles Begins possibly adding a table data cell style.
```

```
9397 \newcommand*{\LWR@tdstartstyles}{\boolfalse{LWR@tdhavecellstyle}}
```

```
\LWR@tdaddstyle Starts adding a table data cell style.
```

```
9398 \newcommand*{\LWR@tdaddstyle}{%
9399 \ifbool{LWR@tdhavecellstyle}{%
9400 {} ; {}%
9401 { style=\textquotedbl}%
9402 } \booltrue{LWR@tdhavecellstyle}%
9403 }
```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```

9404 \newcommand*{\LWR@tdendstyles}{%
9405 \ifbool{LWR@tdhavecellstyle}{%
9406 {%
9407 \textquotedbl%
9408 \booletfalse{LWR@tdhavecellstyle}{%
9409 }{}}%
9410 }

```

\LWR@subaddcmidruletrim {<lefttrim>} {<righttrim>} Adds a \cmidrule with optional trim.

```

9411 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9412 \setlength{\LWR@templengthone}{%
9413 \LWR@getexpparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}}{%
9414 }%
9415 \ifdimcomp{\LWR@templengthone}{>}{0pt}{%
9416 {%

```

Print the class with left and right trim letters appended:

```
9417 \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```

9418 \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}{%
9419 }%
9420 {%
9421 \setlength{\LWR@thiscmidrulewidth}{0pt}{%
9422 }%
9423 }

```

\LWR@addcmidruletrim Adds left or right trim to a \cmidrule.

```

9424 \newcommand*{\LWR@addcmidruletrim}{%
9425 \LWR@subaddcmidruletrim{%
9426 {\LWR@getexpparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}{%
9427 {\LWR@getexpparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}}{%
9428 }

```

\LWR@addrulewidth {<thiswidth>} {<defaultwidth>}

If not default width, add a custom style with width and color depending on thiswidth.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
9429 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if thiswidth is different than the defaultwidth, or if a color is being used:

```

9430 \ifboolexpr{%
9431 test{\ifdimcomp{#1}{=}{0pt}} or
9432 (
9433 (test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP})
9434 and (test {\ifdefvoid{\LWR@ruleHTMLcolor}})
9435)
9436 }%
9437 {}% default width and color
9438 {}% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```
9439 \LWR@forceminwidth{#1}%
```

Begin adding another style:

```
9440 \LWR@tdaddstyle%
```

The style itself:

```
9441 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```

9442 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9443 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}{%
9444 {\LWR@origpound{}A0A0A0}%
9445 {%
9446 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}{%
9447 {\LWR@origpound{}808080}%
9448 {black}%
9449 }%
9450 }%
9451 \LWR@origpound\LWR@ruleHTMLcolor%
9452 }%
9453 }% custom width and/or color
9454 }

```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

9455 \newcommand{\LWR@addcmidrulewidth}{%
9456 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9457 }

```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

9458 \newcommand{\LWR@addcdashline}{%
9459 \edef\LWR@tempone{%
9460 \LWR@getexpparray{LWR@cdashlines}{\arabic{LWR@tableLaTeXcolindex}}%
9461 }%
9462 \ifdefstring{\LWR@tempone}{Y}{%

```

```

9463 \LWR@tdaddstyle%
9464 border-top: 1pt dashed %
9465 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9466 {black}%
9467 {\LWR@origpound\LWR@ruleHTMLcolor}%
9468 }{%
9469 }

```

\LWR@WPcell {\text-align} {\vertical-align}

```

9470 \newcommand*{\LWR@WPcell}[2]{%
9471 \LWR@tdaddstyle%
9472 \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}%
9473 }

```

\LWR@addformatwpalignment {\colspec}

If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

9474 \newcommand*{\LWR@addformatwpalignment}[1]{%
9475 \ifbool{FormatWP}{%
9476 \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}{%
9477 \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}{%
9478 \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}{%
9479 \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}{%
9480 \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}{%
9481 \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}{%
9482 }{%
9483 }

```

## 75.21 Cell colors

\LWR@addtabularrowcolor Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9484 \newcommand*{\LWR@addtabularrowcolor}{%
9485 \ifbool{LWR@tabularmutemods}{%
9486 \ifdefvoid{\LWR@rowHTMLcolor}{%
9487 \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9488 \% xcolor row color
9489 \LWR@tdaddstyle%
9490 background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9491 }{%
9492 }{%
9493 \% explicit row color
9494 \LWR@tdaddstyle%
9495 background:\LWR@origpound\LWR@rowHTMLcolor%
9496 }{%
9497 }{%
9498 }

```

\LWR@addtabularrulecolor Adds a cell's horizontal rule color style, if needed.

```
9499 \newcommand*{\LWR@addtabularrulecolor}{%
```

If either form of horizontal rule is requested:

```
9500 \ifboolexpr{%
9501 test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
9502 test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
9503 bool{\LWR@doingtbrule}%
9504 }{%
```

If there is a no custom color:

```
9505 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9506 }{%
9507 \ifnumcomp{\value{\LWR@hlines}}{>}{1}{%
9508 \%
9509 \LWR@tdaddstyle%
9510 border-top: 4px double%
9511 }{%
9512 \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}{%
9513 \%
9514 \LWR@tdaddstyle%
9515 border-top: 2px dashed%
9516 }{%
9517 \ifnumcomp{\value{\LWR@hdashedlines}}{=}{1}{%
9518 \%
9519 \LWR@tdaddstyle%
9520 border-top: 1px dashed%
9521 }{}}{}}
```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
9522 }{}
```

If there is a custom color:

```
9523 \%
9524 \ifnumcomp{\value{\LWR@hlines}}{>}{1}{%
9525 \%
9526 \LWR@tdaddstyle%
9527 border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9528 }{%
9529 \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}{%
9530 \%
9531 \LWR@tdaddstyle%
9532 border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9533 }{%
9534 \ifnumcomp{\value{\LWR@hdashedlines}}{=}{1}{%
9535 \%
9536 \LWR@tdaddstyle%
9537 border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%}}
```

```

9538 }{% else
9539 \LWR@tdaddstyle%
9540 border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9541 }{}}%
9542 }%
9543 }{}}%
9544 }

```

\LWR@addtabularrulecolors Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```
9545 \newcommand*\LWR@addtabularrulecolors{%
```

Custom horizontal rule color:

```
9546 \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9547 \ifbool{\LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
9548 \ifnumequal{\value{\LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
9549 \edef\tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```

9550 \ifdefstring{\tempone}{tvertbarl}{%
9551 \LWR@tdaddstyle%
9552 border-left: 1px solid % space
9553 \LWR@vertruleHTMLcolor%
9554 }{}}%
9555 \ifdefstring{\tempone}{tvertbarldouble}{%
9556 \LWR@tdaddstyle%
9557 border-left: 4px double % space
9558 \LWR@vertruleHTMLcolor%
9559 }{}}%
9560 \ifdefstring{\tempone}{tvertbarldash}{%
9561 \LWR@tdaddstyle%
9562 border-left: 1px dashed % space
9563 \LWR@vertruleHTMLcolor%
9564 }{}}%
9565 \ifdefstring{\tempone}{tvertbarldoubledash}{%
9566 \LWR@tdaddstyle%
9567 border-left: 2px dashed % space
9568 \LWR@vertruleHTMLcolor%
9569 }{}}%
9570 }{}}%

```

Possibly add a right vertical rule for this cell:

```

9571 \edef\LWR@tempone{%
9572 \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}}%
9573 }%
9574 \ifdefstring{\LWR@tempone}{tvertbarr}{%

```

Add a custom style if a vertical bar was requested:

```

9575 \LWR@tdaddstyle%
9576 border-right: 1px solid \LWR@vertruleHTMLcolor%
9577 }{}%
9578 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9579 \LWR@tdaddstyle%
9580 border-right: 4px double \LWR@vertruleHTMLcolor%
9581 }{}%
9582 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9583 \LWR@tdaddstyle%
9584 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9585 }{}%
9586 \ifdefstring{\LWR@tempone}{tvertbarrdashedash}{%
9587 \LWR@tdaddstyle%
9588 border-right: 2px dashed \LWR@vertruleHTMLcolor%
9589 }{}%
9590 }%
9591 }

```

\LWR@subaddtabularcellcolor {<html color>}

```

9592 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9593 \LWR@htmlltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
9594 style=\textquotedbl{}%
9595 background:\LWR@origpound{}{}#1 %
9596 \textquotedbl\ %
9597 }% space
9598 \defaddtocounter{\LWR@cellcolordepth}{1}%
9599 }

```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```

9600 \newcommand*{\LWR@addtabularcellcolor}{%
9601 \ifdefvoid{\LWR@cellHTMLcolor}{%
9602 }%
9603 \ifdefvoid{\LWR@rowHTMLcolor}{%
9604 }%
9605 \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9606 }%
9607 \ifdefvoid{\LWR@columnHTMLcolor}{%
9608 }%
9609 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9610 }%
9611 {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9612 }%
9613 {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%

```

```

9614 }%
9615 {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9616 }

```

## 75.22 Multicolumns

### 75.22.1 Parsing multicolumns

\LWR@printmccoltype@normal {*col type*}

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```

9617 \newcommand*{\LWR@printmccoltype@normal}[1]{%
9618 #1%
9619 \boolfalse{\LWR@mcolvertbaronleft}%
9620 }

```

\LWR@printmccoltype@ignore {*col type*}

This type does not print a multi-column data cell.

```
9621 \newcommand*{\LWR@printmccoltype@ignore}[1]{}%
```

\LWR@printmccoltype@vertbar {*col type*}

Adds a left or right vertical bar.

```

9622 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
9623 \ifbool{\LWR@mcolvertbaronleft}{%
9624 {\defaddtocounter{\LWR@mcolvertbarsl}{1}}% left edge
9625 {\defaddtocounter{\LWR@mcolvertbarsr}{1}}% not left edge
9626 }

```

\LWR@printmccoltype@colon {*col type*}

Adds a left or right vertical bar.

```

9627 \newcommand*{\LWR@printmccoltype@colon}[1]{%
9628 \ifbool{\LWR@mcolvertbaronleft}{%
9629 {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
9630 {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
9631 }

```

\LWR@printmccoltype@semicolon {*col type*}

Adds a left or right vertical bar.

```
9632 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon
```

---

\LWR@printmccoltype {*cols*} Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

\LWR@columntype@mctype@<*type*> is defined by \LWR@modifycolumntype.

```
9633 \newcommand*{\LWR@printmccoltype}[1]{%
9634 \LWR@traceinfo{lwr@printmccoltype -#1}%
```

Get one token of the column spec:

```
9635 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Detokenize to avoid problems with special characters:

```
9636 \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```
9637 \ifcsdef{\LWR@columntype@mctype@\LWR@strresult}%
9638 {\csuse{\LWR@columntype@mctype@\LWR@strresult}}%
9639 {\boolfalse{\LWR@mcolvertbaronleft}}%
9640 \LWR@traceinfo{lwr@printmccoltype done}%
9641 }
```

\LWR@printmccoldata@other {*num args to skip*} {*entire colspec*}

For @, !, >, <, print the next token without paragraph tags:

```
9642 \newcommand*{\LWR@printmccoldata@other}[2]{%
9643 \defaddtocounter{LWR@tablemulticolspos}{1}%
9644 \StrChar{#2}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9645 \LWR@strresult%
```

A valid column data type was found:

```
9646 \booltrue{\LWR@validtablecol}%
9647 }
```

\LWR@printmccoldata@skip {*num args to skip*} {*entire colspec*}

Nothing to print for this column type.

```
9648 \newcommand*{\LWR@printmccoldata@skip}[2]{%
9649 \defaddtocounter{LWR@tablemulticolspos}{#1}%
}
```

A valid column data type was found:

```
9650 \booltrue{\LWR@validtablecol}%
9651 }
```

For `\LWR@printmccoldata@...>`, `{<num args to skip>}` is provided by `\LWR@columntype@mdata@<coltype>` when it was defined by `\LWR@modifycolumntype`. `\entire_colspec` is provided by `\LWR@printmccoldata` when it uses `\LWR@columntype@mdata@<coltype>`.

```
\LWR@printmccoldata@normal {<num args to skip>} {<entire colspec>}
```

```
9652 \newcommand*{\LWR@printmccoldata@normal}[2]{%
9653 \LWR@multicoltext%
9654 \defaddtocounter{LWR@tablemulticolspos}{#1}%
9655 }
```

```
\LWR@printmccoldata@paragraph {<num args to skip>} {<entire colspec>}
```

```
9656 \newcommand*{\LWR@printmccoldata@paragraph}[2]{%
9657 \LWR@startpars%
9658 \LWR@multicoltext%
9659 \defaddtocounter{LWR@tablemulticolspos}{#1}%
9660 \LWR@stopars%
9661 }
```

```
\LWR@printmccoldata {<entire colspec>}
```

Print the data for any valid column type found.

```
9662 \newcommand*{\LWR@printmccoldata}[1]{%
9663 \LWR@traceinfo{lwr@printmccoldata -#1}%
```

Not yet found a valid column type:

```
9664 \boolfalse{LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
9665 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9666 \edef\LWR@printmccoldatatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9667 \ifcsdef{LWR@columntype@mdata@\LWR@printmccoldatatoken}%
9668 {\csuse{LWR@columntype@mdata@\LWR@printmccoldatatoken}{#1}}%
9669 {}%
```

If an unknown column type, print the text:

```
9670 \ifbool{LWR@validtablecol}{}{\LWR@multicoltext{}}%
```

Tracing:

```
9671 \LWR@traceinfo{lwr@printmccoldata done}%
9672 }
```

```
\parsemulticolumnalignment {\{1: colspec\}} {\{2: printresults csname\}}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```
9673 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9674 \defcounter{LWR@tablemulticolspos}{1}%
9675 \StrLen{\#1}[\LWR@strresult]%
9676 \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
9677 \whileboolexpr{%
9678 not test {%
9679 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}{%
9680 \value{LWR@tablemulticolwidth}%
9681 }%
9682 }%
9683 }%
```

Execute the assigned print function for each token in the column spec:

```
9684 \csuse{\#2}{\#1}%
```

Move to the next token in the column spec:

```
9685 \defaddtocounter{LWR@tablemulticolspos}{1}%
9686 }%
9687 }
```

### 75.22.2 Multicolumn factored code

```
\LWR@addmulticolverrulecolor
```

```
9688 \newcommand*{\LWR@addmulticolverrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9689 \ifbool{\LWR@tabularmutemods}{ }{}
```

Left side:

```
9690 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9691 \LWR@tdaddstyle%
9692 border-left: 1px solid \LWR@vertruleHTMLcolor%
9693 }{%
9694 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9695 \LWR@tdaddstyle%
9696 border-left: 4px double \LWR@vertruleHTMLcolor%
9697 }{}}
```

```

9698 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
9699 \LWR@tdaddstyle%
9700 border-left: 1px dashed \LWR@verruleHTMLcolor%
9701 }{%
9702 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9703 \LWR@tdaddstyle%
9704 border-left: 2px dashed \LWR@verruleHTMLcolor%
9705 }{%

```

Right side:

```

9706 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
9707 \LWR@tdaddstyle%
9708 border-right: 1px solid \LWR@verruleHTMLcolor%
9709 }{%
9710 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
9711 \LWR@tdaddstyle%
9712 border-right: 4px double \LWR@verruleHTMLcolor%
9713 }{%
9714 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
9715 \LWR@tdaddstyle%
9716 border-right: 1px dashed \LWR@verruleHTMLcolor%
9717 }{%
9718 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9719 \LWR@tdaddstyle%
9720 border-right: 2px dashed \LWR@verruleHTMLcolor%
9721 }{%
9722 }%
9723 }

9724 \newcommand{\LWR@multicoltext}{}


```

To find multicolumn right trim:

```

9725 \newcounter{LWR@lastmulticolumn}

\LWR@domulticolumn [<1: vpos] [<2: #rows] {<3: numLaTeXcols} {<4: numHTMLcols} {<5: colspec} {<6: text}

9726 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
9727 \LWR@traceinfo{\LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and when used remember that a valid column type was found:

```

9728 \renewcommand{\LWR@multicoltext}{%
9729 #6%
9730 \booltrue{\LWR@validtablecol}%
9731 }%

```

Expand the preamble and save it.

```

9732 \LWR@expandpreamble{#5}%
9733 \edef\LWR@origmccolspec{\the\@temptokena}%

```

Compute the rightmost column to be included. This is used to create the right trim.

```
9734 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9735 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9736 \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
9737 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9738 \LWR@htmltag{%
9739 td colspan=\textquotedbl#4\textquotedbl\ %
9740 \IfValueT{#2}{ % rows?
9741 rowspan=\textquotedbl#2\textquotedbl\ %
9742 }%
9743 class=\textquotedbl{}td%
```

Print the column type and vertical bars:

```
9744 \defcounter{LWR@mcolvertbarsl}{0}%
9745 \defcounter{LWR@mcolvertbarsr}{0}%
9746 \defcounter{LWR@mcolvertbarsldash}{0}%
9747 \defcounter{LWR@mcolvertbarsrdash}{0}%
9748 \booltrue{LWR@mcolvertbaronleft}%
9749 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{\LWR@printmccoltype}%

```

If this column has a cmidrule, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
9750 \LWR@subaddcmidruletrim%
9751 {%
9752 \LWR@getexpparray{\LWR@trimlrules}%
9753 {\arabic{\LWR@tableLaTeXcolindex}}%
9754 }%
9755 {%
9756 \LWR@getexpparray{\LWR@trimrrules}%
9757 {\arabic{\LWR@lastmulticolumn}}%
9758 }%
```

Also add vertical bar class.

```
9759 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}
9760 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}
9761 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}
9762 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}
9763 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}
9764 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{ tvertbarldoubledash}{}
```

---

```

9766 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}
9767 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9768 tvertbarrdoubledash}{}

```

Close the class tag's opening quote:

```

9769 \textquotedbl{}%
9770 \LWR@tdstartstyles%

```

Style for vertical position:

```

9771 \IfValueT{\#1}{% vpos?
9772 \ifstreq{\#1}{b}{%
9773 {%
9774 \LWR@tdaddstyle%
9775 \LWR@print@mbox{vertical-align:bottom}%
9776 }{%
9777 \ifstreq{\#1}{t}{%
9778 {%
9779 \LWR@tdaddstyle%
9780 \LWR@print@mbox{vertical-align:top}%
9781 }{%
9782 }% vpos?

```

Style for row colors:

```

9783 \LWR@addtabulararrowcolor%

```

Other styles:

```

9784 \LWR@addcmidrulewidth%
9785 \LWR@addcdashline%
9786 \LWR@addtabularhrulecolor%
9787 \LWR@addmulticolvertrulecolor%
9788 \LWR@addformatwpalignment{\LWR@origmccolspec}%
9789 \LWR@tdendstyles%
9790 }% end of the opening table data tag
9791 \boolfalse{\LWR@intabularmetadata}%
9792 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{\LWR@printmccoldata}%
9793 }

```

### 75.22.3 Multicolumn

```
\LWR@htmlmulticolumn {\langle numcols \rangle} {\langle alignment \rangle} {\langle text \rangle}
```

```

9794 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}{%
9795 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

9796 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{\#1}%

```

Create the multicolumn tag:

```
9797 \LWR@domulticolumn{\arabic{LWR@tabhtmlcoltotal}}{\#2}{\#3}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
9798 \defaddtocounter{LWR@tableLaTeXcolindex}{\#1}%
9799 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
9800 \booltrue{LWR@skipatbang}%
9801 }
```

#### 75.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
9802 \providecommand*\LTcaptype{table}
```

```
\LWR@longtabledatacaptiontag * [<toc entry>] {<caption>}
```

```
9803 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}%
9804 {%
```

Remember the latest name for \nameref:

```
9805 \IfValueTF{\#2}{% optional given?
9806 \ifblank{\#2}{% optional empty?
9807 {\LWR@setlatestname{\#3}}% empty
9808 {\LWR@setlatestname{\#2}}% given and non-empty
9809 }% optional given
9810 {\LWR@setlatestname{\#3}}% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
9811 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
9812 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9813 {\arabic{LWR@tabhtmlcoltotal}}%
9814 {p}%
9815 { \LWR@domulticolumn
9816 \IfBooleanTF{\#1}{% star?
```

Star version, show a caption but do not make a LOT entry:

```
9817 {%
9818 yes star
9819 \LWR@figcaption%
9820 \LWR@isolate{#3}%
9821 \endLWR@figcaption%
9822 }%
9823 {%
9824 No star:
```

Not the star version:

Don't step the counter if \caption[]{}{A caption.}

```
9823 \ifbool{LWR@starredlongtable}{%
9824 {%
9825 \ifblank{#2}{% TOC entry
9826 {}%
9827 {%
9828 \refstepcounter{\LTcattypename}%
9829 \protected@edef{\currentlabel}{%
9830 \nameuse{p@\LTcattypename}\nameuse{the\LTcattypename}%
9831 }%
9832 }%
9833 }%
9834 }{}
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```
9834 \LWR@figcaption%
9835 \LWR@isolate{@nameuse{fnum@\LTcattypename}}%
9836 \CaptionSeparator%
9837 \LWR@isolate{#3}%
9838 \endLWR@figcaption%
```

See if an optional caption was given:

```
9839 \ifblank{#2}{% TOC entry empty}
```

if the optional caption was given, but empty, do not form a TOC entry

```
9840 {}%
```

If the optional caption was given, but might only be []:

```
9841 {%
9842 TOC entry not empty
9843 \IfNoValueTF{#2}{% No TOC entry?}
```

The optional caption is []:

```
9843 {%
9844 No TOC entry
9845 \addcontentsline{%
9846 \nameuse{ext@\LTcattypename}}{%
9847 \LTcattypename}%
9848 {}%
9849 \protect\newline%
```

---

```

9849 {\LWR@isolate{@nameuse{p@\LTcaptype}}@nameuse{the\LTcaptype}}%
9850 {\ignorespaces \LWR@isolate{\#3}\protect\relax}%
9851 }%
9852 }% end of No TOC entry

```

The optional caption has text enclosed:

```

9853 {%
9854 yes TOC entry
9855 \addcontentsline%
9856 {@nameuse{ext@\LTcaptype}}%
9857 {\LTcaptype}%
9858 {%
9859 \protect\newline%
9860 {\LWR@isolate{@nameuse{p@\LTcaptype}}@nameuse{the\LTcaptype}}%
9861 {\ignorespaces \LWR@isolate{\#2}\protect\relax}%
9862 }%
9863 }% end of yes TOC entry
9864 }% end of TOC entry not empty
9864 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

9865 \booltrue{\LWR@skipatbang}%
9866 }% end of \LWR@domulticolumn
9867 \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
9868 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
9869
9870 }

```

### 75.22.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L<sup>A</sup>T<sub>E</sub>X \multicolumn command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

9871 \newcounter{\LWR@tabhtmlcolindex}
9872 \newcounter{\LWR@tabhtmlcolend}
9873 \newcounter{\LWR@tabhtmlcoltotal}

\LWR@subtabularhtmlcolumns {\langle index\rangle}

```

Factored from \LWR@tabularhtmlcolumns, which follows.

```

9874 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```
9875 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
9876 \ifdefempty{\LWR@atbangspec}%
9877 {}%
9878 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9879 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9880 \ifdefempty{\LWR@atbangspec}%
9881 {}%
9882 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
9883 }
```

\LWR@tabularhtmlcolumns {*starting L<sup>A</sup>T<sub>E</sub>X column*} {*number L<sup>A</sup>T<sub>E</sub>X columns*}

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter LWR@tabhtmlcoltotal.

```
9884 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
9885 \defcounter{\LWR@tabhtmlcolindex}{#1}%
9886 \defcounter{\LWR@tabhtmlcoltotal}{#2}%
9887 \defcounter{\LWR@tabhtmlcolend}{#1}%
9888 \defaddtocounter{\LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
9889 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{=}{1}{%
9890 \LWR@subtabularhtmlcolumns{leftedge}%
9891 }{}
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
9892 \whileboolexpr{%
9893 test {%
9894 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{<}{\value{\LWR@tabhtmlcolend}}{%
9895 }%
9896 }%
9897 {%
9898 \LWR@subtabularhtmlcolumns{\arabic{\LWR@tabhtmlcolindex}}{%
9899 \defaddtocounter{\LWR@tabhtmlcolindex}{1}}%
990 }% whiledo
991 }
```

---

```
9902 \end{warpHTML}
```

### 75.23 Multirow if not loaded

A default defintion in case multirow is not loaded. This is used during table parsing.

```
9903 \begin{warpHTML}
9904 \newcommand{\multirow}[2][c]{}%
9905 \end{warpHTML}
```

### 75.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `\teximage`.

See section [428](#) for the HTML versions.

**for HTML & PRINT:** 9906 \begin{warpall}

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:halign \rangle} [\langle 3:vpos \rangle] {\langle 4:numrows \rangle} [\langle 5:bigstruts \rangle] {\langle 6:width \rangle} [\langle 7:fixup \rangle]
{\langle 8:text \rangle}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:  
<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
9907 \AtBeginDocument{
```

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
9908 \@ifundefined{@xmultirow}
9909 {
9910 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9911 {+m +m +0{c}} +m +0{0} +m +0{0pt} +m}%
9912 {}%
9913 }% no version of multirow was loaded
9914 {% \@xmultirow defined, so some version of multirow was loaded
```

`\@ifpackageloaded{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```
9915 \@ifpackageloaded{multirow}{% v2.0 or newer
9916 \@ifpackagelater{multirow}{2016/09/01}{2016/09/27} for v2.0
```

---

```

9917 {%
9918 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9919 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9920 {\multicolumn{#1}{#2}{\@xmultirow[#3]{#4}{#5}{#6}{#7}{#8}}}}%
9921 }%
9922 {%
9923 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9924 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9925 {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}}%
9926 }%
9927 }% package loaded{multirow}

```

If not \@ifpackage{multirow} but \@xmultirow is defined, then this must be v1.6 or earlier, which did not \ProvidesPackage{multirow}, and did not have the vposn option.

```

9928 {%
9929 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9930 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9931 {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}}%
9932 }%
9933
9934 }% \@ifundefined{@xmultirow}
9935
9936 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
9937
9938 }% AtBeginDocument

9939 \end{warpall}

```

## 75.25 Utility macros inside a table

**for HTML output:** 9940 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9941 \newcommand*{\LWR@donothing}{}%
```

In case array is not loaded:

```

9942 \let\firsthline\relax
9943 \let\lasthline\relax
9944 \newcommand*{\firsthline}{}%
9945 \newcommand*{\lasthline}{}%

```

In case bigdelim is not loaded:

```

9946 \newcommand*{\ldelim}{}%
9947 \newcommand*{\rdelim}{}%

9948 \end{warpHTML}

```

## 75.26 Special-case tabular markers

**for HTML & PRINT:** 9949 \begin{warpall}

\TabularMacro Place this just before inserting a custom macro in a table data cell. Doing so tells lwarp not to automatically start a new HTML table data cell yet. See section 8.10.1.

```
9950 \newcommand*\TabularMacro{}
```

```
9951 \end{warpall}
```

\ResumeTabular Used to resume tabular entries after resuming an environment.

**⚠ tabular inside another environment** When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars
```

**for HTML output:** 9952 \begin{warpHTML}

```
9953 \newcommand*\ResumeTabular{%
9954 \boolfalse{LWR@existingtabular}%
9955 \boolfalse{LWR@tabularmutemods}%
9956 \LWR@getmynexttoken%
9957 }
```

```
9958 \end{warpHTML}
```

**for PRINT output:** 9959 \begin{warpprint}

```
9960 \newcommand*\ResumeTabular{}
```

```
9961 \end{warpprint}
```

### 75.27 Checking for a new table cell

**for HTML output:** 9962 \begin{warpHTML}

\LWR@tabledatacolumntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```
9963 \newcommand*\LWR@tabledatacolumntag{%
9964 {%
9965 \LWR@traceinfo{\LWR@tabledatacolumntag}{%
```

\show\LWR@mynexttoken to see what tokens to look for

If not any of the below, start a new table cell:

```
9966 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```
9967 \ifdefequal{\LWR@mynexttoken}{\end}{%
9968 {\booltrue{\LWR@exittingtabular}}{}}
```

longtable can have a caption in a cell

```
9969 \ifdefequal{\LWR@mynexttoken}{\caption}{%
9970 {\global\let\LWR@mynextaction\LWR@donothing}{}}
```

Look for other things which would not start a table cell:

```
9971 \ifdefequal{\LWR@mynexttoken}{\multicolumn}{%
9972 {\global\let\LWR@mynextaction\LWR@donothing}{}}{%
9973 \ifdefequal{\LWR@mynexttoken}{\multirow}{%
9974 {\global\let\LWR@mynextaction\LWR@donothing}{}}{%
9975 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}{%
9976 {\global\let\LWR@mynextaction\LWR@donothing}{}}{%
9977 \ifdefequal{\LWR@mynexttoken}{\noalign}{%
9978 {\global\let\LWR@mynextaction\LWR@donothing}{}}{}}
```

If an \mrowcell, this is a cell to be skipped over:

```
9979 \ifdefequal{\LWR@mynexttoken}{\mrowcell}{%
9980 {\global\let\LWR@mynextaction\LWR@donothing}{}}
```

If an \mcolrowcell, this is a cell to be skipped over:

```
9981 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}{%
9982 {\global\let\LWR@mynextaction\LWR@donothing}{}}{%
9983 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}{%
9984 {\global\let\LWR@mynextaction\LWR@donothing}{}}{}}
```

```
9985 \ifdefequal{\LWR@mynexttoken}{\hline}%
9986 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9987 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
9988 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9989 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
9990 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9991 \ifdefequal{\LWR@mynexttoken}{\toprule}%
9992 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9993 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9994 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9995 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9996 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9997 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
9998 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9999 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
10000 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10001 \ifdefequal{\LWR@mynexttoken}{\cline}%
10002 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10003 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10004 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10005 \ifdefequal{\LWR@mynexttoken}{\hhline}%
10006 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10007 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10008 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10009 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10010 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10011 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10012 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10013 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10014 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10015 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10016 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
10017 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10018 {\global\let\LWR@mynextaction\LWR@donothing}{ }
```

```
10019 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10020 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
```

For arydshln:

```
10021 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10022 {\global\let\LWR@mynextaction\LWR@donothing}{ }%

10023 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10024 {\global\let\LWR@mynextaction\LWR@donothing}{ }%

10025 \ifdefequal{\LWR@mynexttoken}{\firstdashline}%
10026 {\global\let\LWR@mynextaction\LWR@donothing}{ }%

10027 \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
10028 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
```

Ignore an empty line between rows:

```
10029 \ifdefequal{\LWR@mynexttoken}{\par}%
10030 {\global\let\LWR@mynextaction\LWR@donothing}{ }%
```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```
10031 \LWR@traceinfo{\LWR@tabledatacolumntag: about to do mynext}%
10032 \LWR@mynextaction%
10033 \LWR@traceinfo{\LWR@tabledatacolumntag: done}%
10034 }

10035 \end{warpHTML}
```

## 75.28 \mrowcell

**for HTML & PRINT:** 10036 \begin{warpall}

**⚠ multirow cells** The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
10037 \newcommand*\mrowcell{}%
```

```
10038 \end{warpall}
```

## 75.29 \mcolrowcell

**for HTML & PRINT:** 10039 \begin{warpall}

⚠ \mcolrowcell The user must insert \mcolrowcell into any \multicolumn cells which must be skipped. This command has no action during print output.

10040 \newcommand\*\{\mcolrowcell}{}{}

10041 \end{warpall}

## 75.30 HTML tabular environment

**for HTML output:** 10042 \begin{warpHTML}

These are default definitions in case booktabs is not loaded, and are not expected to be used, but must exist as placeholders. memoir may have already loaded booktabs.

```
10043 \providetcommand*\{\toprule}[1][]{\hline}
10044 \providetcommand*\{\midrule}[1][]{\hline}
10045 \providetcommand*\{\cmidrule}{\cline}
10046 \providetcommand*\{\bottomrule}[1][]{\hline}
10047 \providetcommand*\{\addlinespace}[1][]{}
10048 \providetcommand*\{\morecmidrules}){}
10049 \providetcommand*\{\specialrule}[3]{\hline}
```

\noalign {⟨text⟩} Redefined for use inside tabular.

```
10050 \LetLtxMacro\LWR@orignoalign\noalign
10051
10052 \newcommand{\LWR@tabularnoalign}[1]{%
10053 \advance\rownum\m@ne%
10054 \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
10055 \renewcommand*\{\LWR@xcolorrowHTMLcolor}{}%
10056 \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\
10057 \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
10058 % \@rowc@lors%
10059 \LWR@getmynexttoken%
10060 }
```

\LWR@HTMLhline The definition of \hline depends on whether tabs has been loaded. If so, optional space below the line may be specified, but will be ignored.

```
10061 \AtBeginDocument{
10062
10063 @ifpackageloaded{lwarp-tables}
10064 {
10065 \newcommand*\{\LWR@HTMLhline}[1][]{%
10066 \ifbool{FormatWP}{%
10067 {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
```

```

10068 {\defaddtocounter{LWR@hlines}{1}}%
10069 \LWR@getmynexttoken}%
10070 }
10071 {
10072 \newcommand*{\LWR@HTMLhline}{%
10073 \ifbool{FormatWP}{%
10074 {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}}{%
10075 {\defaddtocounter{LWR@hlines}{1}}%
10076 \LWR@getmynexttoken}%
10077 }
10078
10079 }% AtBeginDocument

\LWR@HTMLcline {<columns>}

10080 \NewDocumentCommand{\LWR@HTMLcline}{m}{%
10081 {\LWR@docmidrule{#1}\LWR@getmynexttoken}%
}

```

\LWR@tabular@warpprintonly {<contents>}

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

10082 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10083 \ifbool{warpingprint}{#1}{%
10084 \LWR@getmynexttoken%
10085 }

```

\LWR@nullifyNoAutoSpacing For `babel-french`, turn off auto spacing at the start of the tabular, then nullify the autospacing commands inside the tabular, since they were not compatible with the tabular parsing code for each cell, which uses `xstring`.

```

10086 \AtBeginDocument{%
10087 @ifundefined{NoAutoSpacing}{%
10088 \% no babel-french%
10089 \newcommand*{\LWR@nullifyNoAutoSpacing}{}%
10090 }% no babel-french%
10091 \% yes babel-french%
10092 \newcommand*{\LWR@nullifyNoAutoSpacing}{%
10093 \NoAutoSpacing%
10094 \renewcommand*{\NoAutoSpacing}{}%
10095 \renewcommand*{\LWR@FBcancel}{}%
10096 }%
10097 }% yes babel-french%
10098 }% AtBeginDocument

```

Env `tabular <direction> [<vertposition>] {<colspecs>}`

The `<direction>` is from `plex` for Japanese documents, and is ignored.

```

10099 \StartDefiningTabulars
10100

```

```

10101 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}
10102 {%
10103 \LWR@traceinfo{\LWR@HTML@@tabular started}%

```

- ⚠ **<table> inside <span>** In L<sup>A</sup>T<sub>E</sub>X, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. Since there may be several nested `<span>`s, with an unknown number of other objects between, it is hard to undo all these `<span>`s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a `<span>`. Furthermore, in the HTML output, the entire `<table>` is placed on a single line of HTML code, since the line breaking commands are neutralized inside a `<span>`. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `<span>` to print-only.

```

10104 \LWR@spanwarnformat{tabular}%
10105 \addtocounter{\LWR@tabulardepth}{1}%

```

Not yet started a table row:

```
10106 \boolearn{\LWR@startedrow}{}
```

Not yet doing any rules:

```

10107 \defcounter{\LWR@hlines}{0}%
10108 \defcounter{\LWR@hdashedlines}{0}%
10109 \boolearn{\LWR@doingtbrule}{}
10110 \boolearn{\LWR@doingsmidrule}{}

```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```
10111 \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```

10112 \boolearn{\LWR@exittingtabular}{}
10113 \boolearn{\LWR@tabularmutemods}{}

```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```

10114 \boolearn{\LWR@usedmultirow}{}
10115 \boolearn{\LWR@foundmrowcell}{}

10116 \renewcommand*{\LWR@multicoltext}{}%

```

Create the table tag:

```

10117 \booltrue{\LWR@intabularmetadata}%
10118 \LWR@traceinfo{\LWR@tabular: About to \LWR@forecenewpage.}%
10119 \LWR@forcenewpage
10120 \LWR@htmlblocktag{table}%

```

Parse the table columns:

```
10121 \LWR@parsetablecols{#3}%
```

Table col spec is: \LWR@tablecols which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
10122 \LWR@stopars%
```

Track column #:

```
10123 \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10124 \global\boolfalse{\LWR@tabularcelladded}%
```

Start looking for midrules:

```
10125 \LWR@clearmidrules%
```

\\" becomes a macro to end the table row:

```
10126 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
10127 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly}%
```

The following adjust for colortbl.

```
10128 \LetLtxMacro{\arrayrulecolor}{\arrayrulecolor\nexttoken%}
10129 \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolor\nexttoken%}
10130 \def{\LWR@columnHTMLcolor}{}
10131 \def{\LWR@rowHTMLcolor}{}
10132 \def{\LWR@cellHTMLcolor}{}
10133 \rowcolors{}
```

The vertical rules are set to the color active at the start of the tabular. \arrayrulecolor will then affect horizontal rules inside the tabular, but not the vertical rules.

```
10134 \ifdefvoid{\LWR@ruleHTMLcolor}{%
10135 {\edef{\LWR@vertruleHTMLcolor}{black}}%
10136 {\edef{\LWR@vertruleHTMLcolor}{\LWR@origpound\LWR@ruleHTMLcolor}}%}
```

Tracking the depth of cell color <div>s:

```
10137 \defcounter{\LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with \LWR@getmynexttoken to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tbls` package.

```

10138 \LWR@traceinfo{LWR@@HTML@tabular: redefining macros}%
10139 \LetLtxMacro\noalign{\LWR@tabularnoalign}%
10140 \LetLtxMacro\hline{\LWR@HTMLhline}%
10141 \LetLtxMacro\cline{\LWR@HTMLcline}%

10142 \DeclareDocumentCommand{\hdashline}{o}{%
10143 \ifbool{FormatWP}{%
10144 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10145 {\defaddtocounter{LWR@hdashedlines}{1}}{%
10146 \LWR@getmynexttoken}%
10147 }%
10148 \DeclareDocumentCommand{\cdashline}{m}{%
10149 \LWR@docdashline{##1}\LWR@getmynexttoken}%
10150 }%
10151 \DeclareDocumentCommand{\firstdashline}{o}{%
10152 \ifbool{FormatWP}{%
10153 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10154 {\defaddtocounter{LWR@hdashedlines}{1}}{%
10155 \LWR@getmynexttoken}%
10156 }%
10157 \DeclareDocumentCommand{\lastdashline}{o}{%
10158 \ifbool{FormatWP}{%
10159 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}{%
10160 {\defaddtocounter{LWR@hdashedlines}{1}}{%
10161 \LWR@getmynexttoken}%
10162 }%

```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

10163 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10164 \renewcommand*{\mrowcell}{%
10165 \LWR@maybenewtablerow%
10166 \LWR@tabularleftedge%
10167 \booltrue{\LWR@skippingmrowcell}%
10168 \booltrue{\LWR@foundmrowcell}%
10169 }%
10170 \renewcommand*{\mcolrowcell}{%
10171 \LWR@maybenewtablerow%
10172 \booltrue{\LWR@skippingmcolrowcell}%
10173 \booltrue{\LWR@foundmrowcell}%
10174 }%
10175 \LetLtxMacro\caption{\LWR@longtabledatacaptiontag}%

```

Reset for new processing:

```

10176 \boolfalse{\LWR@tableparcell}%
10177 \boolfalse{\LWR@skippingmrowcell}%
10178 \boolfalse{\LWR@skippingmcolrowcell}%

```

```
10179 \boolfalse{LWR@skipatbang}%
10180 \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```
10181 \StartDefiningTabulars%
10182 \protected\gdef\&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```
10183 \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```
10184 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```
10185 \LWR@traceinfo{LWR@@HTML@tabular: about to LWR@getmynexttoken}%
10186 \LWR@getmynexttoken%
10187 }%
```

Ending the environment:

```
10188 \newcommand*{\LWR@HTML@endtabular}%
10189 {%
10190 \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```
10191 \addtocounter{LWR@tabularpardepth}{-1}%
10192 \ifboolexpr{%
10193 test {%
10194 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
10195 {\value{LWR@tabletotalLaTeXcols}}%
10196 } or %
10197 (%
10198 bool{LWR@intabularmetadata} and%
10199 not bool{LWR@tabularcelladded} and%
10200 test {%
10201 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10202 {\value{LWR@tabletotalLaTeXcols}}%
10203 }%
10204)%
10205 }%
10206 {%
10207 \LWR@tabularfinishrow%
10208 }%
10209 {%
10210 \LWR@closetabledatacell%
10211 }%
10212 \LWR@htmlblocktag{/tr}%
}
```

xcolor row color support:

```
10213 \@rowc@lors%
10214 \LWR@htmlblocktag{/table}%
10215 \boolfalse{\LWR@intabularmetadata}%
```

Unnest one level of tabular:

```
10216 \addtocounter{\LWR@tabulardepth}{-1}%
```

Restore & to its usual meaning:

```
10217 \ifnumequal{\value{\LWR@tabulardepth}}{0}{%
10218 \protected\gdef&{\LWR@origampmacro}%
10219 \StopDefiningTabulars%
10220 }{}%
```

Error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

```
10221 \ifbool{\LWR@usedmultirow}{%
10222 \ifbool{\LWR@foundmrowcell}{%
10223 {\relax}%
10224 {%
10225 \PackageError{lwarp}%
10226 {%
10227 When using \protect\multirow, \protect\multicolumn, \MessageBreak
10228 or the bigdelim package, \MessageBreak
10229 place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10230 in empty cells which are to be skipped.\MessageBreak
10231 See the Lwarp package documentation:\MessageBreak
10232 "Special cases and limitations" -> "Tabular"
10233 }%
10234 {%
10235 See the Lwarp package documentation:\MessageBreak
10236 "Special cases and limitations" -> "Tabular".
10237 }%
10238 }%
10239 }{}%
10240 }{\LWR@traceinfo{\LWR@HTML@endtabular finished}%
10241 }
10242
10243 \csletcs{\LWR@HTML@endtabular*}{\LWR@HTML@endtabular}
10244
10245 \StopDefiningTabulars
```

siunitx may redefine tabular, so set the following later:

```
10246 \AtBeginDocument{
10247 \LetLtxMacro{\LWR@origendtabular}{\endtabular}
10248 \csletcs{\LWR@origendtabular*}{\endtabular*}
10249 \LWR@formatted{@tabular}
```

---

```

10250 \LWR@formatted{endtabular}
10251 \LWR@formatted{endtabular*}
10252 }

10253 \end{warpHTML}

```

## 76 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

**File** `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>}@lwarp}{{<section name>}{{<filename>}}
{<limagedepth>}{{<imagenum>}}}
```

Table 16 shows the data structures related to cross-referencing.

**for HTML output:** 10254 `\begin{warpHTML}`

### 76.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```
10255 \def\@currentlabelname{\linkhomename}%
```

`\LWR@stripperiod` `{<text>} [<.>]`

Removes a trailing period.

```
10256 \def\LWR@stripperiod#1.\ltx@empty#2@nil[#1]%
```

`\LWR@setlatestname` `{<object name>}`

Removes `\label`, strips any final period, and remembers the result.

```
10257 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period. See `gettextstring`.

```

10258 \GetTitleStringExpand{#1}%
10259 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
10260 \edef\@currentlabelname{%
```

Table 16: Cross-referencing data structures

| Original LATEX:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | (print and HTML) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <p><b>\refstepcounter:</b> Steps the counter and sets \currentlabel.</p> <p><b>\@currentlabel:</b> \p@&lt;ctr&gt;\the&lt;ctr&gt; Updated by \refstepcounter.</p> <p><b>\label:</b> Writes to the .aux file:<br/> <math>\newlabel{&lt;label&gt;}{{\@currentlabel}{\thepage}}</math></p> <p><b>\newlabel:</b> When the .aux file is read, sets \r@&lt;label&gt;.</p> <p><b>\r@&lt;label&gt;:</b> Set to: {{\@currentlabel}{\thepage}}</p> <p><b>\ref:</b> Returns the first part of \r@&lt;label&gt;.</p> <p><b>\pageref:</b> Returns the second part of \r@&lt;label&gt;.</p>                                                                                                                                                                                                                                                                                                                                                               |                  |
| <b>Added by l warp:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (HTML only)      |
| <p><b>\label:</b> Adds HTML tags (section 76.3), and another .aux entry (section 76.2). If memoir is used, its \mem@old@label points to l warp's version, and cleveref patches.</p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@&lt;label&gt;@l warp.</p> <p><b>\r@&lt;label&gt;@l warp:</b> Set to {{section_name}{file_name}{depth}{number}}:<br/> <math>\LWR@nameref</math>: The section or object name for this label.<br/> <math>\LWR@currentautosecpageref</math>: The LWR@currentautosecpage for this label.<br/> <math>\LWR@htmlfileref</math>: The filenumber or name for this label.<br/> <math>\LWR@lateximagedepthref</math>: The lateximagedepth for this label.<br/> <math>\LWR@lateximagenumberref</math>: The lateximagenumber for this label.</p> <p><b>\nameref:</b> Emulated from hyperref for l warp. See section 76.4.</p> <p><b>\ref and \nameref:</b> Adds HTML tags. See section 76.4.</p> |                  |
| <b>Added by amsmath:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (print and HTML) |
| <p><b>\label:</b> Execution is delayed until the math environment is completed.</p> <p><b>\ltx@label:</b> LATEX \label, (HTML: patched by l warp,) later patched by cleveref.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| <b>Added by cleveref:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | (print and HTML) |
| <p><b>\refstepcounter:</b> Added: sets \cref@currentlabel.</p> <p><b>\cref@currentlabel:</b> (&lt;type&gt;=&lt;ctr&gt; unless an alias is used):<br/> <math>[&lt;type&gt;][\arabic{&lt;ctr&gt;}][&lt;parent\_ctrs&gt;]{\p@&lt;ctr&gt;\the&lt;ctr&gt;}</math> Also see section 60.4 for use with footnotes.</p> <p><b>\label:</b> Writes to the .aux file:<br/> <math>\newlabel{&lt;label&gt;@\cref}{{\cref@currentlabel}{\thepage}}</math></p> <p><b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@&lt;label&gt;@\cref.</p> <p><b>\r@&lt;label&gt;@\cref:</b> Set to: {{\cref@currentlabel}{\thepage}}</p> <p><b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.</p> <p><b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for references to this counter type.</p>                                                                          |                  |
| <b>Additionally patched by l warp:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (HTML only)      |
| <p><b>\cref, etc.:</b> Modified for l warp. See section 202.</p> <p><b>\label inside math:</b> See section 83.7.1.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| <b>Footnotes:</b> See \noteentry in section 60.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |

---

```

10261 \expandafter\LWR@stripperiod@\currentlabelname%
10262 \ltx@empty.\ltx@empty\@nil%
10263 }%
10264 }
```

## 76.2 New lwarf labels.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarf}{{<section name>}{{<filename>}
{<imagedepth>}{{<imagenum>}}}}
```

See:

[http://tex.stackexchange.com/questions/57194/  
extract-section-number-from-equation-reference](http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference)

`\LWR@setref {<args list>} {<selector>} {<label>}`

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarf` references. The regular reference will cause the warning.

```

10265 \def\lwr@setref#1#2#3{%
10266 \ifx#1\relax%
10267 ??%
10268 \else%
10269 \expandafter#2#1%
10270 \fi}
```

`\LWR@nameref {<label>}` Returns the section name for this label:

```

10271 \newcommand*{\lwr@nameref}[1]{%
10272 \begingroup%
10273 \renewcommand{\footnote}[2][]{%
10274 \renewcommand{\footnotemark}[1][]{%
10275 \expandafter\lwr@setref\csname r@#1@lwarf\endcsname\lwr@firstoffive{#1}%
10276 \endgroup%
10277 }}
```

`\LWR@currentautosecpageref {<label>}` Returns the `\LWR@currentautosecpage` for this label:

```

10278 \newcommand*{\lwr@currentautosecpageref}[1]{%
10279 \expandafter\lwr@setref\csname r@#1@lwarf\endcsname\lwr@secondoffive{#1}%
10280 }
```

`\LWR@htmlfileref {<label>}` Returns the file number or name for this label:

```

10281 \newcommand*{\lwr@htmlfileref}[1]{%
10282 \expandafter\lwr@setref\csname r@#1@lwarf\endcsname\lwr@thirdoffive{#1}%
10283 }
```

\LWR@lateximagedepthref {*label*} Returns the `lateximagedepth` for this label:

```
10284 \newcommand*{\LWR@lateximagedepthref}[1]{%
10285 \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@fourthoffive{#1}%
10286 }
```

\LWR@lateximagenumberref {*label*} Returns the `lateximagenumber` for this label:

```
10287 \newcommand*{\LWR@lateximagenumberref}[1]{%
10288 \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@fifthoffive{#1}%
10289 }
```

\LWR@write@lwarplabel {*label*} Sanitize the name and then creates the label:

```
10290 \newcommand*{\LWR@write@lwarplabel}[1]{%
10291 \LWR@traceinfo{\LWR@write@lwarplabel !#1!}%
10292 \LWR@setlatestname{\@currentlabelname}%
10293 \@bsphack%
10294 \protected@write\@auxout{}%
10295 {%
10296 \string\newlabel{#1@l warp}{%
10297 \@\currentlabelname}%
10298 \theLWR@currentautosecpage}%
10299 {%
10300 \ifbool{FileSectionNames}%
10301 {\LWR@thisfilename}%
10302 {\arabic{\LWR@htmlfilenumber}}%
10303 }%
10304 {\arabic{\LWR@lateximagedepth}}%
10305 {\arabic{\LWR@lateximagenumber}}%
10306 }%
10307 }%
10308 \@esphack%
10309 }
```

### 76.3 Labels

\LWR@label@subcreatetag Creates the tag from \LWR@sanitized.

```
10310 \newcommand*{\LWR@Label@subcreatetag}{%
10311 \LWR@htmlltag{a \LWR@print@mbox{id=\textquotedbl\!\LWR@sanitized\!\textquotedbl}}%
10312 \LWR@htmlltag{/a}%
10313 }
```

\LWR@label@inmathcomment

```
10314 \newcommand*{\LWR@Label@inmathcomment}{%
10315 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
10316 {%
```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a \mbox field:

```
10317 \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10318 \ifdef{\totwidth}{\ifbool{LWR@amsmultiline}{}{\hspace*{\totwidth}}}{}
```

Temporarily end the HTML comment, insert the L<sup>A</sup>T<sub>E</sub>X & HTML label, then resume the HTML comment. \@firstofone is required to remove extra braces introduced by the amsmath package.)

```
10319 \LWR@htmclosecomment%
10320 \LWR@label@subcreatetag%
10321 \LWR@htmlopencomment%
10322 }% mbox
10323 }% mathjax
10324 {%
10325 \LWR@label@subcreatetag%
10326 }%
10327 }
```

\LWR@label@createtag {<label>} Creates an HTML id tag.

Used by \LWR@new@label and \hyperdef.

\detokenize is used to allow underscores in the labels.

```
10328 \newcommand*{\LWR@label@createtag}[1]{%
10329 \LWR@traceinfo{\LWR@label@createtag !#1!}%
```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
10330 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10331 {}%
10332 {% not lateximage
```

If not doing a lateximage, create an HTML ID tag.

```
10333 \LWR@sanitize{#1}%
10334 \ifbool{LWR@insidemathcomment}%
10335 {% inside HTML math comment
10336 \LWR@label@inmathcomment%
10337 }% inside HTML math comment
10338 {% not inside HTML math comment
10339 \ifbool{LWR@doingstartpars}%
10340 {% pars allowed
10341 \ifbool{LWR@doingapar}%
10342 {% par started
10343 \LWR@label@subcreatetag%
10344 }% par started
```

```

10345 {% par not started
10346 \LWR@stopars%
10347 \LWR@label@subcreatetag%
10348 \LWR@startpars%
10349 }% par not started
10350 }% pars allowed
10351 {% pars not allowed
10352 \LWR@label@subcreatetag%
10353 }% pars not allowed
10354 }% not inside HTML math comment
10355 }% not lateximage
10356 }

```

\LWR@new@label {*label*}

\label during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L<sup>A</sup>T<sub>E</sub>X \label.

The is also used during a lateximage, including SVG math, since the special label handling is required, but \LWR@label@createtag does not generate HTML tags inside a lateximage.

If memoir is used, it's \mem@old@label is pointed here.

clevereref later encases this to add its own cross-referencing, and also patches memoir.

```

10357 \newcommand*{\LWR@new@label}[1]{%
10358 \LWR@traceinfo{\LWR@new@label: starting}%
10359 \LWR@traceinfo{\LWR@new@label: !#1!}%
10360 % \@bsphack%

```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by cleveref:

```
10361 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, section name, LWR@htmlfilename, LWR@lateximagedepth, and LWR@lateximagenumber:

```

10362 \LWR@traceinfo{%
10363 LWR@new@label: filesectionnames is %
10364 \ifbool{FileSectionNames}{true}{false}%
10365 }%
10366 \LWR@traceinfo{%
10367 LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10368 }%
10369 \LWR@traceinfo{%
10370 LWR@new@label: LWR@htmlfilename is \arabic{LWR@htmlfilename}%
10371 }%
10372 \LWR@write@lwarplabel{#1}%
10373 \LWR@label@createtag{#1}%
10374 % \@esphack%
10375 \LWR@traceinfo{\LWR@new@label: done}%
10376 }

```

## 76.4 References

\LWR@addlinktitle

```

10377 \newcommand*{\LWR@addlinktitle}{%
10378 \ifdefvoid{\LWR@ThisAltText}{}{ % space
10379 title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
10380 \gdef\LWR@ThisAltText{}%
10381 }%
10382 }
```

\LWR@startref {<label>} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

10383 \newcommand*{\LWR@startref}[1]%
10384 {%
10385 \LWR@sanitize{#1}%
10386 \LWR@traceinfo{\LWR@startref A: !#1!}%
```

Create the filename part of the link:

```

10387 \LWR@htmltag{a href=\textquotedbl%
10388 \LWR@traceinfo{\LWR@startref B}%
10389 \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
10390 \LWR@traceinfo{\LWR@startref C}%
10391 \LWR@origpound%
```

Create the destination id:

See if \LWR@lateximagedepth is unknown:

```

10392 \LWR@traceinfo{\LWR@startref D: !#1!}%
10393 \ifcsundef{r@#1@lwarp}%
```

“??” if \LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

10394 {%
10395 \LWR@traceinfo{\LWR@startref D0: ??}%
10396 ??%
10397 }%
```

If \LWR@lateximagedepth is known. Use a lateximage if the depth is greater than zero, or a regular link otherwise:

```

10398 {%
10399 \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}{%
10400 {%
10401 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10402 }%
10403 }%
10404 }%
```

```
10403 {%
10404 \LWR@traceinfo{\LWR@startref D3}%

```

\detokenize is used to allow underscores in the labels:

```
10405 \LWR@print@mbox{\LWR@sanitized}%
10406 }%
10407 }%
10408 \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```
10409 \textquotedbl%
```

Maybe add a title:

```
10410 \LWR@addlinktitle%
10411 }%
10412 \LWR@traceinfo{\LWR@startref F}%
10413 }
```

\LWR@subnewref {\langle label \rangle} {\langle label or sub@label \rangle}

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```
10414 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10415 \LWR@traceinfo{\LWR@subnewref #1 #2}%
10416 \LWR@startref{#1}%
10417 \LWR@print@ref{#2}%
10418 \LWR@htmltag{/a}%
10419 }
```

\ref \* {\langle label \rangle} \ref is redefined to \LWR@HTML@ref, except inside the text part of a \hyperref, where it is redefined to \LWR@ref@ignorestar.

\LWR@HTML@ref \* {\langle label \rangle} Create an internal document reference link, or without a link if starred per `hyperref`.

`hyperref` defines a starred version. Since `hyperref` is only emulated, the starred version is defined here for print mode, in case \ref is used inside SVG math:

```
10420 \LWR@absorbstar{ref}%
```

The HTML version:

```
10421 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10422 \LWR@traceinfo{\LWR@HTML@ref !#2!}%
10423 \IfBooleanTF{#1}%
10424 {\LWR@print@ref{#2}}%
10425 {\LWR@subnewref{#2}{#2}}%
10426 }
```

```

10427
10428 \LWR@formatted{ref}

\LWR@refwithsection

10429 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10430 \LWR@traceinfo{\LWR@refwithsection !#2!}%
10431 \IfBooleanTF{#1}%
10432 {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}{%
10433 {%
10434 \LWR@startref{#2}%
10435 \LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}%
10436 \LWR@htmltag{/a}%
10437 }%
10438 }

```

For MATHJAX:

```

10439 \CustomizeMathJax{\let\LWRref\ref}
10440 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

\pagerefPageFor Text for page references.

```
10441 \newcommand*{\pagerefPageFor}[1]{see }
```

\pageref \* {*label*} Create an internal document reference, or just the unlinked number if starred, per hyperref.

```

10442 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10443 \IfBooleanTF{#1}%
10444 {(\pagerefPageFor\LWR@print@ref{#2})}%
10445 {(\cpageref{#2})}%
10446 }

```

\nameref {*label*}

```

10447 \newrobustcmd*{\nameref}[1]{%
10448 \LWR@traceinfo{\nameref}%
10449 \LWR@startref{#1}%
10450 \LWR@traceinfo{\nameref B}%
10451 \LWR@nameref{#1}%
10452 \LWR@traceinfo{\nameref C}%
10453 \LWR@htmltag{/a}%
10454 \LWR@traceinfo{\nameref: done}%
10455 }

```

\Nameref {*label*} In print, adds the page number. In HTML, does not.

```
10456 \LetLtxMacro{\Nameref}{\nameref}
```

## 76.5 Hyper-references

-  Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

Pkg `hyperref`

-  Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10457 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10458 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support backref.

```
10459 \AtBeginDocument{
10460 \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
10461 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
10462 \newcommand*{\LWR@linkcatcodes}{%
10463 \catcode`\#=12%
10464 \catcode`\%=12%
10465 \catcode`\&=12%
10466 \catcode`\~=12%
10467 \catcode`_=12%
```

For `babel-french`:

```
10468 \LWR@hook@processingtags%
10469 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10470 \newcommand*{\LWR@linkmediacatcodes}{%
10471 \catcode`\#=12%
10472 \catcode`\%=12%
10473 % \catcode`\&=12% left alone for splitting flash variables
10474 \catcode`\~=12%
10475 \catcode`_=12%
```

For `babel-french`:

```
10476 \LWR@hook@processingtags%
10477 }
```

---

```
\LWR@subhyperref {⟨URL⟩}
```

Starts a link for \LWR@hrefb. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```
10478 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10479 \LWR@traceinfo{\LWR@subhyperref !#1!}%
10480 \LWR@sanitize{#1}%
10481 \LWR@htmltag{%
10482 a href=\textquotedbl\text{\LWR@sanitized}\textquotedbl\ % space
10483 \LWR@addlinktitle % space
10484 target=\textquotedbl__blank\textquotedbl\ % space
10485 }%
10486 }
```

```
\LWR@subhyperreftext {⟨text⟩}
```

Finishes the hyperref for \LWR@hrefb. Catcodes must have been restored already. To be used after \LWR@subhyperref, and after its group has been closed.

```
10487 \newcommand{\LWR@subhyperreftext}[1]{%
10488 #1%
10489 \LWR@htmltag{/a}%
10490 \LWR@ensuredoingapar%
10491 }
```

```
\LWR@subhyperrefclass {⟨URL⟩} {⟨text⟩} {⟨htmlclass⟩}
```

```
10492 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10493 \LWR@htmltag{%
10494 a % space
10495 href=\textquotedbl\begingroup\@sanitize#1\endgroup\textquotedbl\ % space
10496 class=\textquotedbl#3\textquotedbl\ % space
10497 \LWR@addlinktitle % space
10498 }\LWR@newline%
10499 #2%
10500 \LWR@htmltag{/a}%
10501 \LWR@ensuredoingapar%
10502 }
```

```
\LWR@href [⟨options⟩] {⟨URL⟩} {⟨text⟩}
```

Create a link with accompanying text:

```
10503 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10504 \LWR@ensuredoingapar%
10505 \LWR@subhyperref{#2}%
10506 \endgroup% restore catcodes
10507 \LWR@subhyperreftext%
10508 }
10509
10510 \newrobustcmd*\LWR@href{%
```

```

10511 \begingroup%
10512 \LWR@linkcatcodes%
10513 \LWR@hrefb%
10514 }

```

\LWR@nolinkurl {⟨URL⟩}

Print the name of the link without creating the link:

```

10515 \newcommand*{\LWR@nolinkurlb}[1]{%
10516 \LWR@ensuredoingapar%
10517 \def\LWR@templink{\#1}%
10518 \onelevel@sanitize\LWR@templink%
10519 \LWR@templink%
10520 \endgroup%
10521 }
10522
10523 \newrobustcmd*{\LWR@nolinkurl}{%
10524 \begingroup%
10525 \LWR@linkcatcodes%
10526 \LWR@nolinkurlb%
10527 }

```

\LWR@url {⟨URL⟩}

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@urlahere` and also redefined by `lwarp-url`.

```

10528 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10529 \LWR@ensuredoingapar%
10530 \def\LWR@templink{\#1}%
10531 \onelevel@sanitize\LWR@templink%
10532 \LWR@href{\LWR@templink}{\LWR@templink}%
10533 \endgroup%
10534 }
10535
10536 \newrobustcmd*{\LWR@url}{%
10537 \begingroup%
10538 \LWR@linkcatcodes%
10539 \LWR@urlb%
10540 }

```

\LWR@subinlineimage {⟨1: alt> tag⟩} {⟨2: class⟩} {⟨3: filename⟩} {⟨4: extension⟩} {⟨5: css style⟩} {⟨6: aria role⟩}

Factored from `lateximage`.

```

10541 \newcommand*{\LWR@subinlineimage}[6]{%
10542 \ifblank{#6}{%
10543 {\renewcommand*{\LWR@tempone}{}}
10544 {\renewcommand*{\LWR@tempone}{role="#6"\LWR@indentHTML}}

```

```
10545 \ifblank{#1}%
10546 {%
10547 \LWR@htmltag{img \LWR@indentHTML
10548 src=\textquotedbl#3.\#4\textquotedbl \LWR@indentHTML
10549 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10550 \LWR@tempone
10551 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10552 class=\textquotedbl#2\textquotedbl \LWR@newline
10553 }%
10554 }%
10555 {%
10556 \LWR@htmltag{img \LWR@indentHTML
10557 src=\textquotedbl#3.\#4\textquotedbl \LWR@indentHTML
10558 alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10559 \LWR@tempone
10560 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10561 class=\textquotedbl#2\textquotedbl \LWR@newline
10562 }%
10563 }%
10564 }

10565 \end{warpHTML}
```

Table 17: Float data structures

---

For each <type> of float (figure, table, etc.) there exists the following:

---

**counter <type>**: A counter called <type>, such as figure, table.

\<type>name: Name. \figurename prints “Figure”, etc.

\ext@<type>: File extension. \ext@figure prints “lof”, etc.

\fps@<type>: Placement.

\the<type>: Number. \thetable prints the number of the table, etc.

\p@<type>: Parent’s number. Prints the number of the [within] figure, etc.

\fnum@<type>: Prints the figure number for the caption.

\<type>name \the<type>, “Figure 123”.

\<type>: Starts the float environment. \figure or \begin{figure}

\end<type>: Ends the float environment. \endfigure or \end{figure}

\tf@<ext>: The LATEX file identifier for the output file.

**LWR@have<type>**: A boolean remembering whether a \listof was requested for a float of this type.

**File with extension lo<f,t,a-z>**: An output file containing the commands to build the \listof<type> “table-of-contents” structure.

**Cross-referencing names**: For cleveref’s \cref and related, \crefname and \Crefname assign human-readable names for references to this float type.

---

## 77 Floats

Floats are supported, although partially through emulation.

Table 17 shows the data structure associated with each <type> of float.

### 77.1 Float environment

**for HTML output**: 10566 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>]      Begins a \newfloat environment.

10567 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a <span>:

10568 \LWR@spanwarninvalid{float}%

```
10569 \ifbool{FormatWP}{\newline}{()}%
10570 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
10571 \addtocounter{LWR@thisautoid}{1}%
10572 \booltrue{LWR@freezethisautoid}%

10573 \begingroup%
```

Settings while inside the environment:

```
10574 \LWR@print@raggedright%
```

Open an **HTML figure** tag. The figure is assigned a **class** equal to its type, and another class according to the **float** package style, if used. Note that **\csuse** returns an empty string if **\LWR@floatstyle@<type>** is not defined.

```
10575 \LWR@htmlltag{%
10576 figure id=\textquotedbl%
10577 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%
10578 \textquotedbl\ % space
10579 class=\textquotedbl#1 \nameuse{LWR@floatstyle@#1}\textquotedbl%
10580 }%
10581 \ifbool{FormatWP}{%
10582 \LWR@orignewline%
10583 \LWR@BlockClassWP{}{}{wp#1}%
10584 }{}%
```

Update the caption type:

```
10585 \renewcommand*{\@capttype}{#1}%
```

Mark the float for a word processor conversion:

```
10586 \LWR@startpars%
10587 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10588 === begin #1 ===
10589 }{}%
```

After each **\LWR@floatbegin**, look for **\centering**, etc next, using **\LWR@floatalignment**.

```
10592 }
```

For koma-script. The following does not work for tables.

```
10593 \AtBeginDocument{%
10594 %
10595 \@ifpackageloaded{tocbasic}{%
10596 }
```

```

10597 \appto\figure@atbegin{%
10598 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10599 }
10600
10601 }{ }% tocbasic
10602
10603 }% AtBeginDocument

```

\@xfloat Support packages which create floats directly.  
 \@xdblfloat Look for \centering, etc using \LWR@floatalignment.

```

10604 \AtBeginDocument{
10605 \def\@xfloat #1[#2]{%
10606 \LWR@floatbegin{#1}[#2]
10607 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10608 }
10609 \def\@xdblfloat #1[#2]{%
10610 \LWR@floatbegin{#1}[#2]
10611 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10612 }
10613 }

```

\LWR@floatend Ends a \newfloat environment.

```
10614 \newcommand*\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
10615 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10616 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10617 === end ===
10618 }
10619
10620 }{ }%
10621 \LWR@stoppars%

```

Close an HTML figure tag:

```

10622 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
10623 \LWR@htmlelementend{figure}%
10624 \endgroup%
10625 \boolfalse{\LWR@freezethisauto}%
10626 \LWR@startpars%
10627 \ifbool{FormatWP}{\newline}{}
10628 }

```

\end@float Support packages which create floats directly.  
 \end@dblfloat

---

```

10629 \AtBeginDocument{
10630 \let\end@float\LWR@floatend
10631 \let\end@dblfloat\LWR@floatend
10632 }

```

## 77.2 Float tracking

Ctr LWR@thisautoid A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```
10633 \newcounter{LWR@thisautoid}
```

Ctr LWR@thisautoidWP A sequential counter for all word processor conversion <div>s. This is used to convince LIBREOFFICE to form a frame around this element.

```
10634 \newcounter{LWR@thisautoidWP}
```

Bool LWR@freezethisautoid Prevents multiple increments of \LWR@thisautoid inside a float.

```

10635 \newbool{LWR@freezethisautoid}
10636 \boolfalse{LWR@freezethisautoid}

```

\LWR@forcenewautoidanchor Adds a new <autoid> anchor.

```

10637 \newcommand*{\LWR@forcenewautoidanchor}{%
10638 \addtocounter{LWR@thisautoid}{1}%
10639 \ifbool{LWR@doingapar}{%
10640 {%
10641 \LWR@htmltag{a id=\textquotedbl%}
10642 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%}
10643 \textquotedbl\ }% space
10644 \LWR@htmltag{/a }%
10645 }%
10646 {%
10647 \LWR@stoppars%
10648 \LWR@htmltag{a id=\textquotedbl%
10649 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%}
10650 \textquotedbl\ }% space
10651 \LWR@htmltag{/a }%
10652 \LWR@startpars%
10653 }%
10654 }

```

\LWR@newautoidanchor Sometimes adds a new <autoid> anchor.

```

10655 \newcommand*{\LWR@newautoidanchor}{%
10656 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
10657 {}%
10658 {\ifbool{LWR@freezethisautoid}{\LWR@forcenewautoidanchor}{}}%
10659 }

```

\@capttype Remembers which float type is in use.

```
10660 \newcommand*{\@capttype}{}%
```

\LWR@floatalignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
10661 \newcommand*{\LWR@floatalignmentname}{}%
```

\LWR@floatalignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
10662 \newcommand*{\LWR@floatalignment}{%
10663 \ifdstrequal{\LWR@mynexttoken}{\centering}{%
10664 \center%
10665 \renewcommand*{\LWR@floatalignmentname}{center}%
10666 }%
10667 \ifdstrequal{\LWR@mynexttoken}{\raggedright}{%
10668 \flushleft%
10669 \renewcommand*{\LWR@floatalignmentname}{flushleft}%
10670 }%
10671 \ifdstrequal{\LWR@mynexttoken}{\raggedleft}{%
10672 \flushright%
10673 \renewcommand*{\LWR@floatalignmentname}{flushright}%
10674 }%
10675 }
```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```
10676 \newcommand*{\LWR@endfloatalignment}{%
10677 \ifdvoid{\LWR@floatalignmentname}%
10678 {}%
10679 {\@nameuse{end\LWR@floatalignmentname}}%
10680 \renewcommand*{\LWR@floatalignmentname}{}%
10681 }
```

### 77.3 Caption inside a float environment

\CaptionSeparator How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```
10682 \AtBeginDocument{\providecommand*{\CaptionSeparator}{:~}}
```

\@caption {⟨posn⟩} [⟨name⟩] {⟨long name⟩}

\@makecaption {⟨name and num⟩} {⟨text⟩}

Prints the float type and number, the caption separator, and the caption text.

\@caption is provided here in case `caption` is not loaded, and is based on the `nameref` package.

---

```

10683 \AtBeginDocument{
10684 \@ifpackageloaded{caption}{}{
10685 \let\LWR@orig@caption\@caption%
10686 \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a <span>:

```

10687 \LWR@spanwarnformat{caption}%
10688 \LWR@setlatestname{#2}%
10689 \LWR@orig@caption{#1}[{#2}]% also takes third argument
10690 }%
10691 \renewcommand{\@makecaption}[2]{%
10692 \LWR@traceinfo{@makecaption}%
10693 \caption@begin{\@capttype}%
10694 \LWR@isolate{#1}%
10695 \edef\LWR@tempone{#1}%
10696 \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
10697 \LWR@isolate{#2}%
10698 \caption@end%
10699 \LWR@traceinfo{@makecaption: done}%
10700 }%
10701 }%
10702 }
10703 }
```

## 77.4 Caption and lof linking and tracking

When a new HTML file is marked in the L<sup>A</sup>T<sub>E</sub>X PDF file, or at the start of a new section, the L<sup>A</sup>T<sub>E</sub>X PDF page number at that point is stored in `\LWR@currentautosecfloatpage`, (and the associated filename is remembered by the special L<sup>A</sup>T<sub>E</sub>X labels). This page number is used to generate an autopage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by `\l@figure`, etc. to create the HTML links in the List of Figures, etc.

`Ctr \LWR@nextautoid` Tracks autoid for floats. Tracks autopage for floats.

`Ctr \LWR@nextautopage` These are updated per float as the .lof, .lot file is read.

```

10704 \newcounter{\LWR@nextautoid}
10705 \newcounter{\LWR@nextautopage}
```

`\LWRsetnextfloat {\langle autopage\rangle} {\langle float autoid\rangle}`

`File *_html.lof` This is written to the \*\_html.lof or \*\_html.lot file just before each float's usual entry. The autopage and the float's autoid are remembered for `\l@figure` to use when creating the HTML links.

```

10706 \newcommand*{\LWRsetnextfloat}[2]{%
10707 \setcounter{LWR@nextautopage}{#1}%
10708 \setcounter{LWR@nextautoid}{#2}%
10709 }

```

Env `LWR@figcaption` An HTML <figcaption> is not allowed in places where L<sup>A</sup>T<sub>E</sub>X does allow a figure caption, such as inside a `longtable` where the tabular has already started, or inside a `center` environment. Therefore, a <div> of class `figurecaption` is used instead.

```

10710 \newenvironment*{\LWR@figcaption}{%
10711 {%
10712 \ifbool{FormatWP}{%
10713 \BlockClass[font-style:italic]{figurecaption}%
10714 }{%
10715 \BlockClass{figurecaption}%
10716 }%
}

```

Inside the caption, temporarily prevent underfull \hbox warnings, such as when the caption contains a math SVG image.

```

10717 \hbadness=10000\relax%
10718 }%
10719 {\endBlockClass}

```

`\LWR@HTML@caption@begin {<type>}`

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```

10720 \newcommand*{\LWR@HTML@caption@begin}[1]{%
10721 {%
10722 \LWR@traceinfo{\LWR@HTML@caption@begin}%
}

```

Keep `par` and `minipage` changes local:

```
10723 \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```

10724 \RenewDocumentEnvironment{minipage}{O{t} O{t} m}{}{%
10725 \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}##5}%

```

Enclose the original caption code inside an HTML tag:

```

10726 \LWR@figcaption%
10727 \LWR@traceinfo{\LWR@HTML@caption@begin: about to \LWR@origcaption@begin}%
10728 \LWR@print@caption@begin{#1}%
10729 \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10730 }

```

---

\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.

```

10731 \newcommand*{\LWR@HTML@caption@end}
10732 {%
10733 \LWR@traceinfo{\LWR@HTML@caption@end}%
10734 \LWR@print@caption@end%

```

Closing tag:

```

10735 \endLWR@figcaption%
10736 \endgroup%
10737 % \leavevmode% avoid bad space factor (0) error
10738 \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10739 }

```

\caption@begin Low-level patches to create HTML tags for captions. These are assigned \AtBeginDocument  
 \caption@end so that other packages which modify captions will have already been loaded before  
 saving the print-mode version.

Print versions are provided here in case caption is not loaded.

```

10740 \AtBeginDocument{%
10741 \providecommand{\caption@begin}[1]{}
10742 \LWR@formatted{caption@begin}
10743
10744 \providecommand{\caption@end}{}
10745 \LWR@formatted{caption@end}
10746 }

```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an  
 HTML anchor.

```

10747 \AtBeginDocument{%
10748 @ifpackageloaded{caption}{%
10749 \let\LWR@origcaptionlistentry\captionlistentry
10750
10751 \renewcommand*{\captionlistentry}{%
10752 \LWR@ensuredoingapar%
10753 \LWR@origcaptionlistentry%
10754 }

10755 \def\LWR@LTcaptionlistentry{%
10756 \LWR@ensuredoingapar%
10757 \LWR@forcenewautoidanchor%
10758 \bgroup%
10759 \@ifstar{\egroup\LWR@LT@captionlistentry}{%
10760 \egroup\LWR@LT@captionlistentry}%
10761 }%
10762
10763 \def\LWR@LT@captionlistentry#1{%
10764 \caption@listentry@\firstoftwo[\LTcaptype]{#1}%
10765 }%
10766 }% caption loaded

```

```

10767 {%
10768 \newcommand{\captionlistentry}[2][]{%
10769 \newcommand{\LWR@LT@captionlistentry}[2][]{%
10770 }
10771 }% AtBeginDocument

```

\addcontentsline Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines \ext@<type> as needed, to mimic and reuse the float mechanism.

f

```

10772 \let\LWR@origaddcontentsline\addcontentsline
10773
10774 \renewcommand*\addcontentsline[3]{%
10775 \ifstreq{\#1}{toc}{}% not TOC

10776 \ifnumcomp{\value{LWR@lateximagedepth}}{0}{%
10777 {}%
10778 {\LWR@newautoidanchor}%
10779 \ifcscvoid{\ext@#2}{\csdef{\ext@#2}{\#1}}{}%
10780 \addtocontents{\@nameuse{\ext@#2}}{%
10781 \protect\LWRsetnextfloat%
10782 {\arabic{LWR@currentautosecfloatpage}}%
10783 {\arabic{LWR@thisautoid}}%
10784 }%
10785 }% not TOC
10786 \LWR@origaddcontentsline{\#1}{\#2}{\#3}%
10787 }

```

Pkg capt-of Either package provides \captionof, which is later patched at the beginning of the document.  
Pkg caption

\captionof Patched to handle paragraph tags.

```

10788 \RequirePackage{capt-of}
10789
10790 \AtBeginDocument{
10791 \let\LWR@origcaptionof\captionof
10792
10793 \renewcommand*\captionof[]{%
10794 \LWR@stopars%
10795 \LWR@origcaptionof%
10796 }%
10797 }% AtBeginDocument

```

```
10798 \end{warpHTML}
```

## 78 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The .toc, .lof, and .lot files are named by the source code \jobname.

In HTML, the printed tables are placed inside a <div> of class toc, lof, or lot.

A “sidetoc” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L<sup>A</sup>T<sub>E</sub>X infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output:** 10799 \begin{warpHTML}

### 78.1 Reading and printing the TOC

\LWR@myshorttoc {<toc/lof/lot/sidetoc>}

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the sidetoc may be referred to again in each HTML page.

10800 \newcommand\*{\LWR@myshorttoc}[1]{%  
10801 \LWR@traceinfo{\LWR@myshorttoc: #1}%

Only if the file exists:

10802 \IfFileExists{\jobname.#1}{%  
10803 \LWR@traceinfo{\LWR@myshorttoc: loading} %

 Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

10804 \begingroup%  
10805 \makeatletter%

Disable CJK xpinyin while generating the sidetoc.

10806 \LWR@disablepinyin%

Read in the TOC file:

10807 \@input{\jobname.#1}%  
10808 \endgroup%  
10809 }%  
10810 {}%  
10811 \LWR@traceinfo{\LWR@myshorttoc: done} %  
10812 }

---

```
\LWR@subtableofcontents {⟨toc/lof/lot⟩} {⟨sectionstarname⟩}
```

Places a TOC/LOF/LOT at the current position.

```
10813 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10814 \@ifundefined{chapter}%
10815 {\LWR@closeprevious{section}}%
10816 {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10817 \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10818 \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10819 \LWR@htmlelementclass{nav}{#1}%
```

Create the actual list:

```
10820 \LWR@myshorttoc{#1}%
```

Close the nav:

```
10821 \LWR@htmlelementclassend{nav}{#1}%
10822 }
```

```
@starttoc {⟨ext⟩}
```

Patch @starttoc to encapsulate the TOC inside HTML tags:

```
10823 \let\LWR@orig@starttoc@\starttoc
10824
10825 \renewcommand{\@starttoc}[1]{
10826 \LWR@htmlelementclass{nav}{#1}%
10827 \LWR@orig@starttoc{#1}%
10828 \LWR@htmlelementclassend{nav}{#1}%
10829 }
```

Bool `LWR@copiedsidetoc` Used to only copy the TOC file to the sidetoc a single time.

(listings and perhaps other packages would re-use `\tableofcontents` for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```
10830 \newbool{LWR@copiedsidetoc}
10831 \boolexfalse{LWR@copiedsidetoc}
```

---

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. newfloat uses \listoffigures for all future float types.

```

10832 \AtBeginDocument{
10833
10834 \let\LWR@origtableofcontents\tableofcontents
10835
10836 \renewcommand*\tableofcontents}{%

```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```

10837 \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10838
10839 === table of contents ===
10840
10841 }
10842 {

```

Copy the .toc file to .sidetoc for printing the sidetoc. The original .toc file is renewed when \tableofcontents is finished.

```

10843 \ifbool{\LWR@copiedsidetoc}{}{%
10844 \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10845 \booltrue{\LWR@copiedsidetoc}%
10846 }%
10847 \LWR@printpendingfootnotes
10848 \LWR@origtableofcontents
10849 }
10850 }% \tableofcontents
10851
10852 }% AtBeginDocument

```

### \listoffigures

```

10853 \let\LWR@origlistoffigures\listoffigures
10854
10855 \renewcommand*\listoffigures{%
10856 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10857
10858 === list of figures ===
10859
10860 }
10861 {
10862 \LWR@printpendingfootnotes
10863 \LWR@origlistoffigures
10864 }
10865 }

```

### \listoftables

```

10866 \let\LWR@origlistoftables\listoftables
10867

```

```

10868 \renewcommand*\listoftables{%
10869 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{%
10870 === list of tables ===
10871 }%
10872 {%
10873 \LWR@printpendingfootnotes
10874 \LWR@origlistoftables
10875 }%
10876 }%
10877 }%
10878 }

```

## 78.2 TOC commands

\LWR@listof {<type>} {<title>}

Emulate the \listof command from the float package (section 276). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X \listoffigures and \listoftables commands, and in tocloft and memoir.

```

10879 \NewDocumentCommand{\LWR@listof}{m +m}{%
10880 @ifundefined{l@#1}{%
10881 \csdef{l@#1##1##2}{\hypertocfloat{1}{#1}{\nameuse{ext@#1}}{##1}{##2}}%
10882 }%
10883 \LWR@subtableofcontents{\nameuse{ext@#1}}{#2}%
10884 \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
10885 \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
10886 \jobname.\nameuse{ext@#1}\relax%
10887 }

```

## 78.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining \sidetocname, and may contain paragraphs.

Per table 18, css may be used to format the sidetoc.

Table 18: CSS related to the sidetoc

**div.sidetoccontainer:** The entire sidetoc.  
**div.sidetotitle:** The title.  
**div.sidetoccontents:** The table of contents.

```
10888 \end{warpHTML}
```

**for HTML & PRINT:** 10889 \begin{warpall}

**Ctr SideTOCDepth** Controls how deep the side-TOC gets. Use a standard L<sup>A</sup>T<sub>E</sub>X section level similar to tocdepth. Warn if parts of the website may be inaccessible.

```

10890 \newcounter{SideTOCDepth}
10891 \setcounter{SideTOCDepth}{1}
10892
10893 \AtEndDocument{%
10894 \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
10895 \PackageWarningNoLine{lwarp}%
10896 {%
10897 SideTOCDepth is less than FileDepth, \MessageBreak%
10898 so some website pages may be inaccessible%%
10899 }%
10900 }{}%
10901 }
```

\sidetocname Holds the default name for the sidetoc.

```

10902 \newcommand{\sidetocname}{Contents}
10903 \end{warpall}
```

**for HTML output:** 10904 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```

10905 \newcommand*{\LWR@sidetoc}{%
10906 \LWR@forcenewpage
10907 \LWR@stoppars
10908 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```

10909 \LWR@htmlelementclass{div}{sidetoccontainer}
10910 \LWR@htmlelementclass{nav}{sidetoc}
10911
10912 \setcounter{tocdepth}{\value{SideTOCDepth}}
10913 }
```

The title is placed into a <div> of class sidetoctitle, and may contain paragraphs.

```

10914 \begin{BlockClass}{sidetoctitle}
10915 \ifcvoid{\thetitle}{}{\InlineClass{sidetocthetitle}{\thetitle}\par}
10916 \sidetocname
10917 \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccontents.

```

10918 \begin{BlockClass}{sidetoccontents}
10919 \LinkHome
10920
10921 \LWR@myshorttoc{sidetoc}
```

---

```

10922 \end{BlockClass}
10923 \LWR@htmlelementclassend{nav}{sidetoc}
10924 \LWR@htmlelementclassend{div}{sidetoccontainer}
10925 }

```

## 78.4 Low-level toc line formatting

\numberline {⟨number⟩}

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```

10926 \newcommand*{\LWR@numberline}[1]{%
10927 \LWR@sectionnumber{#1}\quad%
10928 }
10929
10930 \LetLtxMacro\numberline\LWR@numberline

```

\LWR@maybetocdata Replaced by **tocdata**. Adds author name.

```
10931 \newcommand*{\LWR@maybetocdata}{}%
```

\hypertoc {⟨1: depth⟩} {⟨2: type⟩} {⟨3: name⟩} {⟨4: page⟩}

Called by \l@section, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

**#1** is depth

**#2** is section, subsection, etc.

**#3** the text of the caption

**#4** page number

```

10932 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10933 \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%

```

Respond to **tocdepth**:

```

10934 \ifnumcomp{#1}{>}{\value{tocdepth}}{%
10935 {}%
10936 {}%
10937 \LWR@startpars%

```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

10938 \LWR@subhyperrefclass{%
10939 \LWR@htmlrefsectionfilename{\BaseJobname-autopage-\#4}%
10940 \LWR@origpound\LWR@print@mbox{autosec-\#4}%
10941 }{\#3}{toc\#2}%

10942 \LWR@maybetocdata{%

10943 \LWR@stoppars{%
10944 }%
10945 \LWR@traceinfo{hypertoc done}%
10946 }

```

Ctr `\lofdepth` TOC depth for figures.

```

10947 \@ifclassloaded{memoir}{}{%
10948 \newcounter{lofdepth}%
10949 \setcounter{lofdepth}{1}%
10950 }

```

Ctr `\lotdepth` TOC depth for tables.

```

10951 \@ifclassloaded{memoir}{}{%
10952 \newcounter{lotdepth}%
10953 \setcounter{lotdepth}{1}%
10954 }

```

`\hypertocfloat` {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

#1 is depth

#2 is figure, table, etc.

#3 is lof, lot, of the parent.

#4 the text of the caption

#5 page number

```
10955 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's `lofdepth` counter, etc, define it here:

```

10956 \@ifundefined{c\#3depth}{%
10957 \newcounter{\#3depth}%
10958 \setcounter{\#3depth}{1}%
10959 }{%

```

Respond to `\ofdepth`, etc.:

```
10960 \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10961 \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}%
10962 {%
10963 \LWR@startpars%
```

Create an HTML link to `filename#autoid-(float number)`, with text of the caption, of the given HTML class.

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
10964 \LWR@subhyperrefclass{%
10965 \LWR@htmrefsectionfilename{%
10966 \BaseJobname-autopage-\arabic{\LWR@nextautopage}}%
10967 }%
10968 \LWR@origpound\LWR@print@mbox{autoid-\arabic{\LWR@nextautoid}}}}%
10969 {[#4]{toc#2}}%

10970 \LWR@maybetocdata{%

10971 \LWR@stoppars{%
10972 }%
10973 {}%
10974 }
```

Automatically called by `\contentsline`:

```
\l@book {\langle name\rangle} {\langle page\rangle}
```

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\book`.

```
10975 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part {\langle name\rangle} {\langle page\rangle}
```

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\part`.

```
10976 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

```
\l@chapter {\langle name\rangle} {\langle page\rangle}
```

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\chapter`.

```
10977 @ifundefined{chapter}
10978 {}
10979 {
10980 \DeclareDocumentCommand{\l@chapter}{m m}
10981 {\hypertoc{0}{chapter}{#1}{#2}}
10982 }
```

---

```
\l@section {\langle name\rangle} {\langle page\rangle}

10983 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}

\l@subsection {\langle name\rangle} {\langle page\rangle}

10984 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}

\l@subsubsection {\langle name\rangle} {\langle page\rangle}

10985 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}

\l@paragraph {\langle name\rangle} {\langle page\rangle}

10986 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}

\l@ subparagraph {\langle name\rangle} {\langle page\rangle}

10987 \renewcommand{\l@ subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}

\l@figure {\langle name\rangle} {\langle page\rangle}

10988 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}

\l@table {\langle name\rangle} {\langle page\rangle}

10989 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}

10990 \end{warpHTML}
```

## 79 Index and glossary

See:

[http://tex.stackexchange.com/questions/187038/  
how-to-mention-section-number-in-index-created-by-imakeidx](http://tex.stackexchange.com/questions/187038/how-to-mention-section-number-in-index-created-by-imakeidx)

Index links are tracked by the counter LWR@autoindex. This counter is used to create a label for each index entry, and a reference to this label for each entry in the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output:** 10991 \begin{warpHTML}

```
10992 \newcounter{LWR@autoindex}
10993 \setcounter{LWR@autoindex}{0}
10994
10995 \newcounter{LWR@autoglossary}
10996 \setcounter{LWR@autoglossary}{0}
```

---

\IndexPageSeparator User-adjustable delimiter for page and range separators in the \*.ind files.  
 \IndexRangeSeparator

```
10997 \newcommand{\IndexPageSeparator}{, }
10998 \newcommand{\IndexRangeSeparator}{--}
```

Env theindex

```
10999 \@ifundefined{chapter}
11000 {\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}
11001 {\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}
11002
11003
11004 \AtBeginDocument{
11005
11006 \renewenvironment*{theindex}{%
11007 \LWR@indexsection{\indexname}%
11008 \LetLtxMacro\item\LWR@indexitem%
11009 \LetLtxMacro\subitem\LWR@indexsubitem%
11010 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
11011 }{}%
11012
11013 }% AtBeginDocument
```

\LWR@indexitem [*index key*] The optional argument is added to support repeatindex.

```
11014 \newcommand{\LWR@indexitem}[1][\@empty]{
11015
11016 \InlineClass{indexitem}{\LWR@htmlcomment{}#1}%
11017 }
```

\LWR@indexsubitem

```
11018 \newcommand{\LWR@indexsubitem}{%
11019
11020 \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
11021 }
```

\LWR@indexsubsubitem

```
11022 \newcommand{\LWR@indexsubsubitem}{%
11023
11024 \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
11025 }
```

\LWR@xindex@modifyentry {*indexing term*}

If using *xindex*, modifies the pipe character to become \hyperindexformat. The indexing term is split into two arguments at the pipe, then fed to \LWR@xindex@modifyentrysub.

```
11026 \NewDocumentCommand{\LWR@xindex@modifyentry}{>{\SplitArgument{1}{|}}m}
11027 {\LWR@xindex@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a `hyperindexformat` clause.

```

11028 \newcommand*{\LWR@index@modifyentrysub}[2]{%
11029 \edef\LWR@tempone{\#1}%
11030 \edef\LWR@temptwo{\#2}%
11031 \IfValueTF{\#2}{%
11032 \ifx{\#2}{%
11033 \appto{\LWR@tempone{|}}{%
11034 \else%
11035 \ifx{\#2}{%
11036 \appto{\LWR@tempone{|}}{%
11037 \else%
11038 \appto{\LWR@tempone{%
11039 |hyperindexformat\LWRleftbrace{%
11040 \LWRbackslash\#2{%
11041 \LWRrightbrace{%
11042 }{%
11043 \fi{%
11044 \fi{%
11045 }{%
11046 }{%
11047 }

```

`\@wrindex {<indexing term>}` Redefined to write the `\LWR@autoindex` counter instead of page.

If using `xindex`, the first line is a comment including a special phrase which tricks `xindex` into thinking that `hyperref` was used.

```

11048 \newbool{\LWR@index@tricked}
11049 \boolfalse{\LWR@index@tricked}
11050
11051 \def{\LWR@wrindex}{%
11052 \ifbool{\LWR@index}{%
11053 \ifbool{\LWR@index@tricked}{%
11054 \protected@write{\@indexfile}{%
11055 {%
11056 \LWRpercent\space hyperpage\LWRrightbrace{%
11057 \LWRpercent\space trick xindex to assume hyperref{%
11058 }{%
11059 \global\booltrue{\LWR@index@tricked}{%
11060 }{%
11061 \LWR@index@modifyentry{\#1}{%
11062 }{%
11063 \def{\LWR@tempone}{\#1}{%
11064 }{%
11065 \addtocounter{\LWR@autoindex}{1}{%
11066 \label{\LWRindex-\arabic{\LWR@autoindex}}{%
11067 \protected@write{\@indexfile}{%
11068 {\string\indexentry{\LWR@tempone}{\arabic{\LWR@autoindex}}}{%
11069 \endgroup{%
11070 \esphack{%
11071 }{%
11072 }{%
11073 \AtBeginDocument{%
11074 \let{\@wrindex}{\LWR@wrindex}
```

```
11075 }
```

\@wrglossary {*term*} Redefined to write the LWR@autoglossary counter instead of page.

```
11076 \def\@wrglossary#1{%
11077 \addtocounter{LWR@autoglossary}{1}%
11078 \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
11079 \protected@write\@glossaryfile{}{%
11080 {\string\glossaryentry{\#1}{\theLWR@autoglossary}}%
11081 \endgroup%
11082 \esphack%
11083 }
```

\LWR@indexnameref@anonref {*LWR@autoindex*}

Displays a reference link where there no \ref available.

```
11084 \newcommand*{\LWR@indexnameref@anonref}[1]{%
11085 \LWR@startref{LWRindex-\#1}%
11086 (*)%
11087 \LWR@htmlltag{/a}%
11088 }
```

\LWR@indexnameref@ref {*LWR@autoindex*}

Creates \ref-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```
11089 \newcommand*{\LWR@indexnameref@ref}[1]{%
11090 \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
11091 \ifdefvoid{\LWR@thisref}{}{%
11092 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11093 \ifdefvoid{\LWR@thisref}{}{%
11094 {\LWR@indexnameref@anonref{\#1}}%
11095 {\ref{LWRindex-\#1}}%
11096 }%
11097 }
```

\LWR@indexnameref@refnameref {*LWR@autoindex*}

Creates \ref-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or ?? objects, only the name is used.

```
11098 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
11099 \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
11100 \ifdefvoid{\LWR@thisref}{}{%
11101 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11102 \ifdefvoid{\LWR@thisref}{}{%
11103 \ifdefstring{\LWR@thisref}{(*)}{%
11104 {}%
11105 {\ref{LWRindex-\#1}}% space
11106 }%
11107 }%
11108 }%
11109 }
```

```

11106 }%
11107 }%
11108 \nameref{LWRindex-#1}%
11109 }

```

\LWR@indexnameref@cref {⟨LWR@autoindex⟩}

Creates \cref-style index references. If no numbered reference is available, a \nameref is used instead. If the reference is ??, which will be changed by \LWR@indexnameref to become (\*), then the link is changed to show (\*).

```

11110 \newcommand*{\LWR@indexnameref@cref}[1]{%
11111 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11112 \ifdefvoid{\LWR@thisref}{%
11113 \nameref{LWRindex-#1}%
11114 }{%
11115 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11116 \ifdefvoid{\LWR@thisref}{%
11117 \nameref{LWRindex-#1}%
11118 }{%
11119 \ifdefstring{\LWR@thisref}{(*)}{%
11120 \LWR@indexnameref@anonref{#1}%
11121 }{%
11122 \cref{LWRindex-#1}%
11123 }%
11124 }%
11125 }%
11126 }

```

\LWR@indexnameref@crefnameref {⟨LWR@autoindex⟩}

Creates \cref-style index references. If no numbered reference is available, a \nameref is used instead. If the reference is ??, which will be changed by \LWR@indexnameref to become (\*), then the link is changed to show only the name.

```

11127 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11128 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11129 \ifdefvoid{\LWR@thisref}{%
11130 {}%
11131 {}%
11132 \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11133 \ifdefvoid{\LWR@thisref}{%
11134 {}%
11135 {}%
11136 \ifdefstring{\LWR@thisref}{(*)}{%
11137 {}%
11138 {\cref{LWRindex-#1}} % space
11139 }%
11140 }%
11141 \nameref{LWRindex-#1}%
11142 }

```

\LWR@indexnameref {⟨LWR@autoindex⟩}

Creates a hyperlink based on the given entry's autoindex.

```
11143 \newcommand*{\LWR@indexnameref}[1]{%
11144 {% group
```

Temporarily redefine `caption`'s `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```
11145 \ifdef{\caption@xref}{%
11146 \renewcommand*{\caption@xref}[2]{(*)}%
11147 }{}%
11148 \ifdefstring{\LWR@IndexRef}{ref}{%
11149 \LWR@indexnameref@ref{#1}%
11150 }{}%
11151 \ifdefstring{\LWR@IndexRef}{nameref}{%
11152 \nameref{LWRindex-#1}%
11153 }{}%
11154 \ifdefstring{\LWR@IndexRef}{refnameref}{%
11155 \LWR@indexnameref@refnameref{#1}%
11156 }{}%
11157 \ifdefstring{\LWR@IndexRef}{cref}{%
11158 \LWR@indexnameref@cref{#1}%
11159 }{}%
11160 \ifdefstring{\LWR@IndexRef}{crefnameref}{%
11161 \LWR@indexnameref@crefnameref{#1}%
11162 }{}%
11163 \ifdefstring{\LWR@IndexRef}{autoref}{%
11164 \LWR@indexnameref@cref{#1}%
11165 }{}% text string
11166 \LWR@startref{LWRindex-#1}%
11167 \LWR@IndexRef%
11168 \LWR@htmltag{/a}%
11169 }}}}{}%
11170 }% group
11171 }
```

`\LWR@doindexentrysubsub {<range start: LWR@autoindex, or macros.>} {<range end or blank>}`

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```
11172 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
11173 \IfInteger{#1}{%
11174 {\LWR@indexnameref{#1}}%
11175 {#1}%
11176 \IfValueT{#2}{%
11177 \IndexRangeSeparator%
11178 \IfInteger{#2}{%
11179 {\LWR@indexnameref{#2}}%
11180 {#2}%
11181 }%
11182 }}
```

---

\LWR@doindexentrysub {*<range delimiter>*} {*LWR@autoindex or macros, possible a range*}

11183 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}{  
11184     {\LWR@doindexentrysub#2}}

\LWR@doindexentry {*LWR@autoindex or macros, possible a range*}

11185 \newcommand\*{\LWR@doindexentry}[1]{%  
11186     \relax% required  
11187     \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}}%  
11188 }

\LWR@hyperindexrefnullified Handles macros commonly seen inside an \index entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

\appto{\LWR@hyperindexrefnullified}{...}

11189 \newcommand{\LWR@hyperindexrefnullified}{%  
11190     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%  
11191     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%  
11192     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%  
11193     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%  
11194     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%  
11195     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%  
11196     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%  
11197     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%  
11198     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%  
11199     \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%  
11200     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%  
11201     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%  
11202     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%  
11203 }

\hyperindexref {*list of LWR@autoindex, commas, and ranges*}

\hyperindexref{LWR@autoindex} is inserted into \*.ind by the *makeindex* style file *lwarp.ist* or the *xindy* style file *lwarp.xdy*. For *xindex*, \hyperpage is inserted, which is \let to \hyperindexref. For *gindex*, \addindexitem and related are inserted, which are defined to use \hyperindexref.

The argument is split at commas, and also for ranges, then passed to \LWR@hyperindexrefsub.

11204 \newcommand\*{\hyperindexref}[1]{%  
11205     \relax% required  
11206     \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}}%  
11207 }

\LWR@hyperindexref@comma {*separator*} {*list of args*}

The list is split at commas, and passed to \LWR@hyperindexref@@comma.

```

11208 \NewDocumentCommand{\LWR@hyperindexref@comma}{%
11209 {m >{\SplitList{#1}} m}%
11210 {%

```

Used to place the separator between each entry, but not before the first.

```

11211 \def\LWR@hyperindexref@thiscomma{}%
11212 \def\LWR@hyperindexref@nextcomma{#1}%

```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@@comma.

```

11213 \ProcessList{#2}\LWR@hyperindexref@@comma%
11214 }

```

\LWR@hyperindexref@@comma {*arg, perhaps with a range*}

A comma separator is placed if not the first item, then the range is parsed.

```

11215 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
11216 \LWR@hyperindexref@thiscomma%
11217 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11218 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11219 }

```

\LWR@hyperindexref@range {*range delimiter*} {*arg*}

```

11220 \NewDocumentCommand{\LWR@hyperindexref@range}{%
11221 {m >{\SplitArgument{1}{#1}} m}%
11222 {\LWR@hyperindexrefsub#2}

```

\LWR@hyperindexrefsub {*range start: LWR@autoindex*} {*range end, or -NoValue-*}

Handles the start and end of a range, if applicable.

```

11223 \newcommand*{\LWR@hyperindexrefsub}[2]{%
11224 \LWR@hyperindexrefsubtwo{#1}%
11225 \IfValueT{#2}{%
11226 \IndexRangeSeparator%
11227 \LWR@hyperindexrefsubtwo{#2}%
11228 }%
11229 }

```

\LWR@hyperindexrefsubtwo {*LWR@autoindex*}

```

11230 \newcommand*{\LWR@hyperindexrefsubtwo}[1]{%

```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```

11231 \edef\LWR@tempone{#1}%

```

```

11232 \IfBeginWith{\LWR@tempone}{ }{%
11233 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11234 }{}%

```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```

11235 \IfInteger{\LWR@tempone}{%
11236 {\LWR@indexnameref{\LWR@tempone}}%
11237 }{%
11238 \begingroup%
11239 \LWR@hyperindexrefnullified%
11240 #1%
11241 \endgroup%
11242 }%
11243 }

```

\hyperpage Emulate hyperref.

```
11244 \LetLtxMacro\hyperpage\hyperindexref
```

\nohyperpage Emulate hyperref.

```
11245 \def\nohyperpage#1{}
```

\hyperindexformat Emulate hyperref.

```

11246 \def\hyperindexformat#1#2{%
11247 #1{\hyperpage{#2}}%
11248 }%

```

```
11249 \end{warpHTML}
```

**for PRINT output:** A null command for print mode, in case hyperref was not used:

```

11250 \begin{warpprint}
11251 \newcommand{\hyperindexref}[1]{#1}
11252 \end{warpprint}

```

**for HTML & PRINT:** For the glossaries package, try to prevent an error where \glo@name was not found:

```

11253 \begin{warpall}
11254 \providecommand{\glo@name}{}%
11255 \end{warpall}

```

## 80 Bibliography presentation

**for HTML output:** 11256 \begin{warpHTML}

---

\bibliography {⟨filenames⟩} At one time this was modified to read \BaseJobname.bbl, which meant the HTML version could not resolve until the print version was also present. This also confused multibib. It has been reverted to the original to use \jobname.bbl.

```
\@biblabel {⟨text-refnumber⟩}
```

```
11257 \renewcommand{\@biblabel}{\quad\#1\quad}
```

Env thebibliography To emphasize document titles in the bibliography, the following redefines \em inside thebibliography to gather everything until the next closing brace, then display these tokens with \textit.

*Adapted from embracedef.sty, which is by TAKAYUKI YATO:*

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```
11258 \AtBeginDocument{%
11259 \AtBeginEnvironment{thebibliography}{%
11260 \providecommand*{\LWR@newem}[1]{\textit{\#1}}%
11261 \renewrobustcmd{\em}{%
11262 \begingroup%
11263 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11264 \afterassignment\LWR@em@after%
11265 \toks@\bgroup%
11266 \def\LWR@em@finish{\%
11267 \xdef\LWR@em@after{\noexpand\the\toks@}%
11268 }%
11269 }%
11270 \def\LWR@em@finish{\%
11271 \xdef\LWR@em@after{\noexpand\the\toks@}%
11272 }%
11273 }%
11274 }%
11275 }%
11276 }%
11277 }% \AtBeginEnvironment{thebibliography}%
11278 }% \AtBeginDocument{%
11279 }% \AtBeginDocument{%
11280 \end{warpHTML}}
```

## 81 Restoring original formatting

for HTML output: 11281 \begin{warpHTML}

\LWR@restoreMathJaxformatting A few macros (ref: `tcolorbox`) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
11282 \newcommand*{\LWR@restoreMathJaxformatting}{}%
```

\LWR@restoreorigformatting Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a *lateximage*.

Must be used inside a group.

Sets \LWR@formatting to print until the end of the group.

A number of packages will \appto additional actions to this macro.

Various packages add to this macro using \appto.

```
11283 \newcommand*{\LWR@restoreorigformatting}{%
11284 \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on \LWR@formatting:

```
11285 \renewcommand*{\LWR@formatting}{print}%
11286 \linespread{1}%
11287 \let\par\LWR@origpar%
11288 \LWR@select@print@hskip%
11289 \LetLtxMacro\hfil\LWR@orighfil%
11290 \let\hss\LWR@orighss%
11291 \let\llap\LWR@origllap%
11292 \let\rlap\LWR@origrlap%
11293 \let\hfilneg\LWR@orighfilneg%
11294 \let\,,\LWR@origcomma% disable HTML short unbreakable space
11295 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
11296 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
11297 \let\textellipsis\LWR@origtextellipsis%
11298 \let\vdots\LWR@origvdots%
11299 \let\textless\LWR@origtextless%
11300 \let\textgreater\LWR@origtextgreater%
11301 \let\&\LWR@origampersand%
11302 \LetLtxMacro\em\LWR@origem%
11303 \LetLtxMacro\normalfont\LWR@orignormalfont%
11304 \let\sp\LWR@origsp%
11305 \let\sb\LWR@origsb%
11306 \LetLtxMacro\underline\LWR@origunderline%
11307 \let~\LWR@origtilde%
11308 \let\enskip\LWR@origenskip%
11309 \let\quad\LWR@origquad%
11310 \let\qquad\LWR@origqquad%
```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```

11311 \LetLtxMacro\endtabular\LWR@origendtabular%
11312 \csletcs{endtabular*}{LWR@origendtabular*}%

11313 \LetLtxMacro\noalign\LWR@orignoalign%
11314 \LetLtxMacro\hline\LWR@orighline%

11315 \let\newline\LWR@orignewline%
11316 \LetLtxMacro\includegraphics\LWR@origincludegraphics%

11317 \LetLtxMacro@\ensuredmath\LWR@origensuredmath%

11318 \let\math\LWR@orig@math%
11319 \let\endmath\LWR@orig@endmath%
11320 \let\displaymath\LWR@orig@displaymath%
11321 \let\enddisplaymath\LWR@orig@enddisplaymath%
11322 %
11323 \LWR@restoreorigaccents%
11324 \LWR@restoreoriglists%

11325 \let\@mpfootnotetext\LWR@orig@mpfootnotetext%
11326 \LWR@hook@processingtags%

```

To enable MathJax-specific nullification, used for tcolorbox:

```

11327 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
11328 {\LWR@restoreMathJaxformatting}%
11329 {}%
11330 }

11331 \end{warpHTML}

```

## 82 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 11332 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
11333 \newcommand*{\LWR@dash}{-}
```

\LWR@nullfonts Removes formatting during filename operations, file references, and HTML comments.

⚠ Use only inside a group.

The following are *not* made robust, since they must be expanded to their nullified versions.

```
11334 \catcode`\$=\active% redefining $ below
11335 \catcode`_=12% redefining _ below
11336 \newcommand*\{LWR@nullfonts}{%
```

Various built-in symbols.

```
11337 \renewcommand*{\$}{-}%
11338 \renewcommand*{\%}{-}%
11339 \renewcommand*{_}{-}%
11340 \renewcommand*{\{}{-}%
11341 \renewcommand*{\}}{-}%
11342 \renewcommand*{\&}{-}%
11343 used to be 'and'
11344 \renewcommand*{\#}{-}%
11345 \renewcommand*{\,}{-}%
11346 \renewcommand*{\~}{-}%
11347 % accents:
11348 \renewcommand*{\`}[1]{##1}%
11349 \renewcommand*{\'}[1]{##1}%
11350 \renewcommand*{\^}[1]{##1}%
11351 \renewcommand*{\~}[1]{##1}%
11352 \renewcommand*{\=}[1]{##1}%
11353 \renewcommand*{\u}[1]{##1}%
11354 \renewcommand*{\.}[1]{##1}%
11355 \renewcommand*{\"}[1]{##1}%
11356 \renewcommand*{\H}[1]{##1}%
11357 \renewcommand*{\v}[1]{##1}%
11358 \renewcommand*{\d}[1]{##1}%
11359 \renewcommand*{\c}[1]{##1}%
11360 \renewcommand*{\b}[1]{##1}%
11361 \renewcommand*{\t}[1]{##1}%
11362 %
11363 \let\newline\LWR@dash%
11364 \let\textasciicircum\LWR@dash%
11365 \let\textasciitilde\LWR@dash%
11366 \let\textasteriskcentered\LWR@dash%
11367 \let\textbackslash\LWR@dash%
11368 \let\textbar\LWR@dash%
11369 \let\textbardbl\LWR@dash%
11370 \let\textbigcircle\LWR@dash%
11371 \let\textbraceleft\LWR@dash%
11372 \let\textbraceright\LWR@dash%
11373 \let\textbullet\LWR@dash%
11374 \let\textcopyright\LWR@dash%
11375 \let\textdagger\LWR@dash%
11376 \let\textdaggerdbl\LWR@dash%
11377 \let\textdollar\LWR@dash%
11378 \let\textellipsis\LWR@dash%
11379 \let\textemdash\LWR@dash%
11380 \let\textendash\LWR@dash%
```

```
11381 \let\textexcldown\LWR@dash%
11382 \let\textgreater\LWR@dash%
11383 \let\textless\LWR@dash%
11384 \let\textordfeminine\LWR@dash%
11385 \let\textordmasculine\LWR@dash%
11386 \let\textparagraph\LWR@dash%
11387 \let\textperiodcentered\LWR@dash%
11388 \let\textpertenthousand\LWR@dash%
11389 \let\textperthousand\LWR@dash%
11390 \let\textquestiondown\LWR@dash%
11391 \let\textquotedblleft\LWR@dash%
11392 \let\textquotedblright\LWR@dash%
11393 \let\textquotel\textquotel\LWR@dash%
11394 \let\textquoteright\LWR@dash%
11395 \let\textregistered\LWR@dash%
11396 \let\textsection\LWR@dash%
11397 \let\textsterling\LWR@dash%
11398 \let\texttrademark\LWR@dash%
11399 \let\textunderscore\LWR@dash%
11400 \let\textvisiblespace\LWR@dash%
11401 \let\copyright\LWR@dash%
11402 \let\dag\LWR@dash%
11403 \let\ddag\LWR@dash%
11404 \let\dot\textdots\LWR@dash%
11405 \let\textP\LWR@dash%
11406 \let\textpounds\LWR@dash%
11407 \let\textS\LWR@dash%
11408 %
11409 \renewcommand*\aa{a}%
11410 \renewcommand*\AA{A}%
11411 \renewcommand*\AE{AE}%
11412 \renewcommand*\ae{ae}%
11413 \renewcommand*\dh{d}%
11414 \renewcommand*\DH{D}%
11415 \renewcommand*\DJ{D}%
11416 \renewcommand*\dj{d}%
11417 \renewcommand*\IJ{IJ}%
11418 \renewcommand*\ij{ij}%
11419 \renewcommand*\L{L}%
11420 \renewcommand*\l{l}%
11421 \renewcommand*\NG{NG}%
11422 \renewcommand*\ng{ng}%
11423 \renewcommand*\O{O}%
11424 \renewcommand*\o{o}%
11425 \renewcommand*\oe{oe}%
11426 \renewcommand*\OE{OE}%
11427 \renewcommand*\ss{ss}%
11428 \renewcommand*\SS{SS}%
11429 \renewcommand*\th{th}%
11430 \renewcommand*\TH{TH}%
11431 %
11432 \let\guillemotleft@\empty%
11433 \let\guilsinglleft@\empty%
11434 \let\quotedblbase@\empty%
11435 \let\textquotedbl@\empty%
```

```

11436 \let\guillemotright\empty%
11437 \let\guilsinglright\empty%
11438 \let\quotesinglbase\empty%

11439 \renewcommand*\{\\HTMLunicode}[1]{}%
11440 \renewcommand*\{\\HTMLEntity}[1]{}%

11441 \renewcommand{\textsuperscript}[1]{##1}%
11442 \renewcommand{\textsubscript}[1]{##1}%

11443 \renewcommand{\underline}[1]{##1}%

11444 \RenewDocumentCommand{\hspace}{s m}{}%

11445 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{{##4}}%
11446 \DeclareExpandableDocumentCommand{\InlineClass}{D(){} o m +m}{{##4}}%

```

Nullify math macros.

```

11447 \def\{##1}{}%
11448 \def\[##1]{}%
11449 \RenewDocumentCommand{\LWR@subsingleollar}{s m m m}{}%

```

Nullify logos:

```

11450 \renewcommand*\{\\TeX}{\\TeX}%
11451 \renewcommand*\{\\LaTeX}{\\LaTeX}%
11452 \renewcommand*\{\\LaTeXe}{\\LaTeXe}%
11453 \renewcommand*\{\\LuaTeX}{\\LuaTeX}%
11454 \renewcommand*\{\\LuaLaTeX}{\\LuaLaTeX}%
11455 \renewcommand*\{\\XeTeX}{\\XeTeX}%
11456 \renewcommand*\{\\XeLaTeX}{\\XeLaTeX}%
11457 \renewcommand*\{\\ConTeXt}{\\ConTeXt}%
11458 \renewcommand*\{\\BibTeX}{\\BibTeX}%
11459 \renewcommand*\{\\MakeIndex}{\\MakeIndex}%
11460 \renewcommand*\{\\AmS}{\\AmS}%
11461 \renewcommand*\{\\MiKTeX}{\\MiKTeX}%
11462 \renewcommand*\{\\LyX}{\\LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11463 \def\texorpdfstring{\expandafter\@secondoftwo}%
11464 }%
11465 \catcode`\$=3%
11466 \catcode`_=8%

```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```

11467 \newcommand*\{\\FilenameNullify}[1]{}%
11468 \appto{\LWR@nullfonts}{#1}%
11469 }%

```

```
11470 \end{warpHTML}
```

## 83 Math

### 83.1 Limitations

See [Math](#), section 8.7.

### 83.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT:** 11471 \begin{warpall}

\AltTextOpen The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

```
11472 \newcommand*\{\AltTextOpen\}{(}
```

\AltTextClose The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: (

```
11473 \newcommand*\{\AltTextClose\}{)}
```

\ImageAltText The HTML alt tag for an image.

Default: image

```
11474 \newcommand*\{\ImageAltText\}{image}
```

\MathImageAltText The HTML alt tag for an SVG math image.

Default: "math image"

```
11475 \newcommand*\{\MathImageAltText\}{math image}
```

\LWR@ThisAltText The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingle$`, and each use of MATHJAX.

```
11476 \newcommand*\{\LWR@ThisAltText\}{}
```

\ThisAltText  $\{\langle text \rangle\}$

Assigns the HTML alt tag for the next image generated by `l warp`, such as a `lateximage`, `picture`, or SVG math.

---

```
11477 \newcommand*{\ThisAltText}[1]{%
11478 \renewcommand{\LWR@ThisAltText}{#1}%
11479 }
```

\PackageDiagramAltText Appended to the `lateximage` HTML alt tag for the images generated by many packages.  
Default: “diagram”

```
11480 \newcommand*{\PackageDiagramAltText}{diagram}
11481 \end{warpall}
```

### 83.3 Inline and display math

**for HTML output:** 11482 \begin{warpHTML}

Ctr LWR@externalfilecnt Counter for the external files which are generated and then referenced from the HTML:

```
11483 \newcounter{LWR@externalfilecnt}
```

Bool LWR@indisplaymathimage True if processing display math for SVG output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11484 \newbool{LWR@indisplaymathimage}
```

Bool LWR@insidemathcomment True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label's HTML tags will be seen by HTML.

```
11485 \newbool{LWR@insidemathcomment}
11486 \boolfalse{LWR@insidemathcomment}
```

Bool LWR@xfakebold True if `xfakebold` \setBold is in use.

```
11487 \newbool{LWR@xfakebold}
11488 \boolfalse{LWR@xfakebold}
```

\LWR@orig@setBold Redefined by `lwarp-xfakebold`.

```
11489 \newcommand*{\LWR@orig@setBold}{}{}
```

\LWR@orig@unsetBold Redefined by `lwarp-xfakebold`.

```
11490 \newcommand*{\LWR@orig@unsetBold}{}{}
```

\LWR@applyxfakebold Redefined by `lwarp-xfakebold`.

```
11491 \newcommand*{\LWR@applyxfakebold}{}{}
```

\LWR@setcurrentfont Sets the actual L<sup>A</sup>T<sub>E</sub>X font to that which was selected for HTML output. Ex: In HTML mode, \bfseries sets \LWR@f@series to “bf”. This sets the PDF output here for use inside a `lateximage`.

```
11492 \newcommand*{\LWR@setcurrentfont}{%
11493 \LWR@traceinfo{Using font family \LWR@f@family}%
11494 @nameuse{\LWR@print@\LWR@f@family family}%
11495 \LWR@traceinfo{Using font series \LWR@f@series}%
11496 @nameuse{\LWR@print@\LWR@f@series series}%
11497 \LWR@traceinfo{Using font shape \LWR@f@shape}%
11498 @nameuse{\LWR@print@\LWR@f@shape shape}%
11499 \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11500 @nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11501 }
```

\\$ Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar \\$, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a `lateximage`, in which case it will not be seen by MATHJAX.

```
11502 \let\LWR@origtextdollar\$
11503
11504 \renewcommand*{\$}{%
11505 \ifnumcomp{\value{\LWR@lateximagedepth}}{0}%
11506 {\LWR@origtextdollar}%
11507 {\HTMLunicode{00024}}%
11508 }
```

**File** `lwarp_baseline_marker.png` A marker to be used to help `pdfcrop` identify the inline math baseline and width. If either `graphicx` or `graphics` is loaded, this marker is placed at the lower left and lower right corners of the inline math. `pdfcrop` is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

**File** `lwarp_baseline_marker.eps` A marker with alpha or opacity of 0% is not registered by `pdfcrop`, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final SVG image.

If `graphicx` is loaded, this marker is sized as a tiny 1 sp square. If `graphics` is loaded, this marker is used at its default size of around .25 pt. If neither `graphics` package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using `graphicx`.

\LWR@addbaselinemarker Places a small marker in an SVG inline image. If `graphics` or `graphicx` are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```
11509 \AtBeginDocument{%
11510
11511 \ifpdf
11512 \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
11513 \else
11514 \ifXeTeX
```

```

11515 \newcommand*{\LWR@baselinename}{l warp_baseline_marker.png}
11516 \else
11517 \newcommand*{\LWR@baselinename}{l warp_baseline_marker.eps}
11518 \fi
11519 \fi
11520
11521 \IfFileExists{\LWR@baselinename}%
11522 {
11523 \@ifpackageloaded{graphicx}{%
11524 \newcommand*{\LWR@addbaselinemarker}{%
11525 \LWR@originincludegraphics{\LWR@baselinename}%
11526 }%
11527 }%
11528 \@ifpackageloaded{graphics}{%
11529 \newcommand*{\LWR@addbaselinemarker}{%
11530 \LWR@originincludegraphics{\LWR@baselinename}%
11531 }%
11532 }%
11533 \newcommand*{\LWR@addbaselinemarker}{%
11534 \global\booltrue{\LWR@warnbaselinemarker}%
11535 }%
11536 \AtEndDocument{%
11537 \ifbool{\LWR@warnbaselinemarker}{%
11538 \PackageWarningNoLine{l warp}{%
11539 Load graphicx or graphics for improved\MessageBreak
11540 SVG math sizing and baselines%
11541 }%
11542 }{}%
11543 }%
11544 }%
11545 }
11546 }% l warp_baseline_marker.png or .eps is not present
11547 \newcommand*{\LWR@addbaselinemarker}{%
11548 \global\booltrue{\LWR@warnbaselinemarker}%
11549 }
11550 \AtEndDocument{%
11551 \ifbool{\LWR@warnbaselinemarker}{%
11552 \PackageWarningNoLine{l warp}{%
11553 File \LWR@baselinename\space is not installed\MessageBreak
11554 alongside the l warp-*.sty files, so\MessageBreak
11555 SVG math sizing and baselines may not be accurate}%
11556 }{}%
11557 }
11558 }
11559
11560 }% AtBeginDocument

```

Bool `LWR@warnbaselinemarker` True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11561 \newbool{\LWR@warnbaselinemarker}
11562 \boolfalse{\LWR@warnbaselinemarker}

```

Bool `LWR@unknownmathsize` If `Tikz` or other objects are used inside math mode, the resulting image may exceed

the  $\text{TEX}$  box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the  $\text{HTML}$  styles for image size and depth will be neutralized.

```
11563 \newbool{\LWR@unknownmathsize}
```

```
\LWR@singledollarmeasure {\langle math expression\rangle}
```

Measures the size of the image of the math expression.

(In some circumstances  $\text{SVG}$  math is used even if  $\text{MATHJAX}$  is preferred.)

**SVG math:**  $\backslash\text{LWR@origensuredmath}$  is part of argument #4.

**SVG math \ensuremath:**  $\backslash\text{LWR@origensuredmath}$  is part of argument #4.

**SVG dynamic math:**  $\backslash\text{LWR@origensuredmath}$  is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without  $\backslash\text{LWR@origensuredmath}$ . This case is handled above.

**MATHJAX \ensuremath:**  $\backslash\text{LWR@origensuredmath}$  is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without  $\backslash\text{LWR@origensuredmath}$ , so  $\backslash\text{LWR@origensuredmath}$  is added below.

**\ifmmode:** Included “just in case”.

Factored from  $\backslash\text{LWR@subsingledollarsvg}$ .

```
11564 \newcommand*{\LWR@singledollarmeasure}[1]{%
11565 \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11566 \LWR@restoreorigformatting%
11567 \RenewDocumentEnvironment{lateximage}{s o s o o d(){}{}% inside group
11568 \LWR@print@normalsize%
```

Temporarily set font for the  $\text{HTML}$   $\text{PDF}$  output:

```
11569 \LWR@setcurrentfont%
```

$\text{lateximagedepth}$  must be nested to avoid generating paragraph tags.  $\mathcal{AM}S$  math modifies the  $\text{text}$  macro such that  $\text{addtocounter}$  does not always occur as expected. Lower-level code is used instead.

```
11570 \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set  $\text{LWR@unknownmathsize}$ , in which case this will be used to cancel the  $\text{HTML}$  styles being generated here.

```
11571 \boolfalse{\LWR@unknownmathsize}%
```

```

11572 \ifmmode%
11573 \global\sbox{\LWR@singledollarbox}{#1}%
11574 \else%
11575 \ifbool{\LWR@dynamicmath}{%
11576 \ifbool{\mathjax}{%
11577 \global\sbox{\LWR@singledollarbox}%
11578 {\LWR@origensuredmath{#1}}%
11579 }{%
11580 \global\sbox{\LWR@singledollarbox}{#1}%
11581 }%
11582 }{%
11583 \global\sbox{\LWR@singledollarbox}{#1}%
11584 }%
11585 \fi%

```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```

11586 \global\sbox{\LWR@singledollarbox}{%
11587 \usebox{\LWR@singledollarbox}%
11588 \raisebox{-\dp\LWR@singledollarbox}{%
11589 \LWR@addbaselinemarker%
11590 }%
11591 }%

```

More low-level code to undo the counter change.

```
11592 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```

11593 \setlength{\LWR@singledollardepth}{%
11594 \LateximageFontSize\dp\LWR@singledollarbox%
11595 }%

```

Make the length a global change:

```
11596 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```

11597 \setlength{\LWR@singledollarwidth}{%
11598 \LateximageFontSize\wd\LWR@singledollarbox%
11599 }%
11600 \global\LWR@singledollarwidth=\LWR@singledollarwidth%

```

Likewise for total height:

```

11601 \setlength{\LWR@singledollarheight}{%
11602 \LateximageFontSize\ht\LWR@singledollarbox%
11603 }%

```

```

11604 \addtolength{\LWR@singledollarheight}{%
11605 \LateximageFontSize\dp\LWR@singledollarbox%
11606 }%
11607 \global\LWR@singledollarheight=\LWR@singledollarheight%
11608 \endgroup%
11609 }

```

\LWR@subsingledollarsvg \* {\langle 2: alt text \rangle} {\langle 3: add'l hashing \rangle} {\langle 4: math expression \rangle}

For inline math. Uses svg math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `latexitimage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from \LWR@subsingledollarsvg.

```
11610 \newcommand*{\LWR@subsingledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
11611 \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The `em` unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```

11612 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11613 \def\LWR@singledollarstyle{%
11614 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11615 }%
11616 }{%
11617 \def\LWR@singledollarstyle{%
11618 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11619 }%
11620 }%

```

If a very narrow width, use the height.

```

11621 \ifdimless{\LWR@singledollarwidth}{.2em}{%
11622 }{%
11623 \def\LWR@singledollarstyle{%
11624 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11625 }%
11626 }%
11627 {}%

```

If very wide and short, use the width:

```

11628 \ifdimless{\LWR@singledollarheight}{.2em}{%
11629 }{%
11630 \def\LWR@singledollarstyle{%
11631 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%

```

```

11632 }%
11633 }%
11634 {}%

```

If there is significant text depth, add the depth to the style.

```

11635 \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11636 \def\LWR@singledollardepthstyle{%
11637 \ ; % extra space
11638 \LWR@print@mbox{%
11639 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11640 } % extra space
11641 }%
11642 }{%
11643 \def\LWR@singledollardepthstyle{}%
11644 }%

```

If using certain *Tikz* actions inside math, the resulting image may exceed the *TEX* boundaries, so the *HTML* size styles may be incorrect, and must be neutralized.

```

11645 \ifbool{\LWR@unknwnmathsize}{%
11646 \def\LWR@singledollarstyle{}%
11647 \def\LWR@singledollardepthstyle{}%
11648 }{%

```

Create the *lateximage* using the alternate tag and the computed size and depth. The star causes *lateximage* to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

11649 \ifbool{\LWR@dynamicmath}{%
11650 \LWR@traceinfo{subsingledollar: dynamic}%
11651 \begin{lateximage}% no hashing
11652 [\MathImageAltText]%
11653 []% no add'l hashing
11654 [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11655 (math)% ARIA
11656 }{%
11657 \LWR@traceinfo{subsingledollar: static}%
11658 \IfValueTF{#1}{%
11659 \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for *xfakebold*:

```

11660 \ifbool{\LWR@xfakebold}{%
11661 {\def\LWR@tempone{Y}}%
11662 {\def\LWR@tempone{N}}%
11663 \begin{lateximage}%
11664 [#2]%
11665 *% do not add open/closing braces
11666 [% addl' hashing
11667 #3%
11668 FM\LWR@f@family%
11669 SR\LWR@f@series%

```

```

11670 SH\LWR@f@shape%
11671 SHC\LWR@f@shapecaps%
11672 CL\LWR@tempcolor%
11673 FB\LWR@tempone% xfakebold
11674]%
11675 [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11676 (math)% ARIA
11677 }{#1 False
11678 \begin{lateximage} no hashing
11679 [#2] alt
11680 [] no add'l hashing
11681 [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11682 (math)% ARIA
11683 }%
11684 }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```
11685 \LWR@addbaselinemarker%
```

Support for *xfakebold*:

```
11686 \LWR@applyxfakebold%
```

Typeset the contents:

```
11687 \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```

11688 \LWR@addbaselinemarker%
11689 \end{lateximage}%
11690 %
11691 }
```

```
\LWR@subsingledollar * {\langle 2: alt text \rangle} {\langle 3: add'l hashing \rangle} {\langle 4: math expression \rangle}
```

For inline math. Uses MATHJAX, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a *lateximage*.

**SVG math:** \LWR@origensuredmath is part of argument #4.

**SVG math \ensuremath:** \LWR@origensuredmath is part of argument #4.

**SVG dynamic math:** \LWR@origensuredmath is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without \LWR@origensuredmath. This case is handled above.

**MATHJAX \ensuremath:**  $\backslash LWR@origensuredmath$  is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without  $\backslash LWR@origensuredmath$ , so  $\backslash LWR@origensuredmath$  is added below.

### image filename hashing

If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple alt tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated TeX expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

```

11692 \newlength{\LWR@singledollarwidth}
11693 \newlength{\LWR@singledollarheight}
11694 \newlength{\LWR@singledollardepth}
11695
11696 \newsavebox{\LWR@singledollarbox}
11697
11698 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11699 \LWR@traceinfo{\LWR@subsingledollar}%
11700 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11701 {%
11702 \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11703 #4% contents
11704 }%
11705 {%
11706 \begingroup%

```

Support for xfakebold:

```
11707 \LWR@applyxfakebold%
```

MATHJAX cannot parse the often complicated TeX expressions which appear in the various uses of \ensuredmath. \ensuremath forces the alt tag to “(math image)”, as translated according to \MathImageAltText. If this is the case, force the use of a lateximage even if MATHJAX. Likewise for siunitx if parse-numbers=false.

If MATHJAX, or if formatting math for a word processor, and not \ensuredmath, and not a dynamic math expression, print the math expression:

```

11708 \ifboolexpr{%
11709 (
11710 bool{mathjax} or
11711 (bool{FormatWP} and bool{WPMarkMath})
```

```

11712) and
11713 (not test {
11714 \ifstrequal {#2}%
11715 from \ensuredmath
11716 { \AltTextOpen\MathImageAltText\AltTextClose }
11717)
11718 (not bool{LWR@dynamicmath})
11719 }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

11720 {%
11721 \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
11722 {%
11723 \textbackslash(%
11724 {%

```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math, ex. equation with tcolorbox with math.

```

11725 \ifmmode\else\LWR@print@ttfamily\fi%
11726 \LWR@HTMLsanitize{#4}%
11727 }%
11728 \textbackslash(%
11729 }%
11730 }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code, and a css style to control the baseline adjustment.

```

11731 {%
11732 not mathjax
11733 \LWR@traceinfo{%
11734 LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
11735 }%
11736 \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
11737 }% not mathjax
11738 \endgroup%
11738 }% not in a lateximage

```

Clear the single-use alt text:

```

11739 \gdef\LWR@ThisAltText{}%
11740 \LWR@traceinfo{\LWR@subsingledollar: done}%
11741 }

11742 \LetLtxMacro{\LWR@origdollar$}
11743 \LetLtxMacro{\LWR@secondorigdollar$}% balance for editor syntax highlighting

11744 \LetLtxMacro{\LWR@origopenparen\(
11745 \LetLtxMacro{\LWR@origcloseparen\)}
11746 \LetLtxMacro{\LWR@origopenbracket\[}
11747 \LetLtxMacro{\LWR@origclosebracket\]}

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:  
\$\$

```

11748 \begingroup
11749 \catcode`\$=\active%
11750 \protected\gdef${\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```
11751 \protected\gdef\newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%
```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```
11752 \protected\gdef\LWR@doubledollar$#1$${%
```

If `MATHJAX` or formatting for a word processor, print the `LATEX` expression:

```
11753 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
```

For `MATHJAX`, print the math between `\[` and `\]`:

```

11754 {
11755
11756 \IfSubStr{\detokenize\expandafter{\#1}}{\detokenize{note}}{%

```

The equation is printed to the `PDF` output inside `HTML` comment tags. This allows labels and footnotes to be accepted and processed. The `math` environment is selected here, and `\LWR@hidelatexequation` will use the original print-mode meaning of `math`.

```

11757 \LWR@hidelatexequation{math}{\#1}%
11758 \InLineClass{hidden}{\LWR@syncnotenumbers}%
11759 \textbackslash[%
11760 {\LWR@print@ttfamily\LWR@HTMLsanitize{\#1}}%
11761 \textbackslash]%
11762 \InLineClass{hidden}{\LWR@syncnotenames}%
11763 }{%
11764 \textbackslash[%
11765 {\LWR@print@ttfamily\LWR@HTMLsanitize{\#1}}%
11766 \textbackslash]%
11767 }%
11768
11769 }% mathjax

```

For `SVG`, print the math inside a `lateximage`, with an `<alt>` tag of the `LATEX` code:

```

11770 {%
11771 not mathjax
11772 \begin{BlockClass}{displaymath}%
11773 \LWR@newautoidanchor%
11774 \booltrue{\LWR@indisplaymathimage}%
11775 \begin{lateximage}%
11776 \textbackslash[] % extra space
11777 \LWR@HTMLsanitize{\#1} % extra space
11778 \textbackslash[]}%
11779]%

```

```
11780 *% do not add open/closing braces
11781 (math)% ARIA
```

Support for `xfakebold`:

```
11782 \LWR@applyxfakebold%
11783 \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11784 \end{lateimage}%
11785 \end{BlockClass}%
11786 }% not mathjax
```

Clear the single-use alt text:

```
11787 \gdef\LWR@ThisAltText{}%
11788 }%
```

`\LWR@singledollar {<alt text>} {<math expression>}`

```
11789 \protected\gdef\LWR@singledollar#1{%
11790 \ifbool{mathjax}{%
11791 \LWR@subsingledollar*%
11792 {% alt tag
11793 \textbackslash(%
11794 \LWR@HTMLsanitize{\#1} % extra space
11795 \textbackslash)%
11796 }%
11797 {singledollar}% add'l hashing
11798 {\#1}% contents
11799 }% not mathjax
11800 \LWR@subsingledollar*%
11801 {% alt tag
11802 \textbackslash(%
11803 \LWR@HTMLsanitize{\#1} % extra space
11804 \textbackslash)%
11805 }%
11806 {singledollar}% add'l hashing
11807 {\LWR@origensuredmath{\#1}}% contents
11808 }% not mathjax
```

Clear the single-use alt text:

```
11809 \gdef\LWR@ThisAltText{}%
11810 }%
```

`\(` Redefine to the above dollar macros.`

`\[`

```
11811 \AtBeginDocument{%
11812 \protected\gdef\(#1\){\$#1\$}
11813 \protected\gdef\[#1\]{\$\$#1\$\$}
11814 }
11815
11816 \endgroup% active $
```

```

11817 \AtBeginDocument{
11818 \LetLtxMacro{\LWR@openbracketnormal}{[
11819 \LetLtxMacro{\LWR@closebracketnormal}{]}
11820 }

```

\@ensuredmath {*expression*}

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex TEX expressions which MATHJAX may not render. If SVG math, a hashed file is used with a simple alt tag, but additional hashing provided by the contents.

```

11821 \LetLtxMacro{\LWR@origensuredmath}{\@ensuredmath}
11822
11823 \renewcommand{\@ensuredmath}[1]{%
11824 \ifbool{mathjax}{%
11825 \LWR@subsingle-dollar*{\AltTextOpen\MathImageAltText\AltTextClose}%
11826 }{%
11827 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
11828 }%
11829 \relax%
11830 \LWR@origensuredmath{\#1}%
11831 }%
11832 }%
11833 }% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

11834 \ifmmode%
11835 \LWR@origensuredmath{\#1}%
11836 \else%

```

Create an inline math `lateximage` with a simple alt tag and additional hashing according to the contents.

```

11837 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11838 \LWR@origensuredmath{\#1}%
11839 }{%
11840 \LWR@subsingle-dollar*{%
11841 \AltTextOpen\MathImageAltText\AltTextClose}%
11842 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
11843 \LWR@origensuredmath{\#1}%
11844 }%
11845 \fi%
11846 }%

```

Clear the single-use alt text:

```

11847 \gdef\LWR@ThisAltText{}%
11848 }

```

Remember then remove the old `math` and `displaymath` environments:

```

11849 \let\LWR@orig@math\math
11850 \let\LWR@orig@endmath\endmath
11851
11852 \let\LWR@orig@displaymath\displaymath
11853 \let\LWR@orig@enddisplaymath\enddisplaymath
11854
11855 \let\math\relax
11856 \let\endmath\relax
11857
11858 \let\displaymath\relax
11859 \let\enddisplaymath\relax

```

**Env** `math` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for \BODY.

```
11860 \NewEnviron{math}{\expandafter{(\BODY\bgroup)}
```

**Env** `LWR@displaymathnormal` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for \BODY.

```
11861 \NewEnviron{LWR@displaymathnormal}{\expandafter[\bgroup\BODY\bgroup]\ignorespaces}
```

Set the default displaymath to the normal version:

```

11862 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11863 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%

```

**Env** `LWR@displaymathother` A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

11864 \newenvironment{LWR@displaymathother}
11865 {%
11866 \begin{BlockClass}{displaymath}%
11867 \LWR@newautoidanchor%
11868 \booltrue{\LWR@indisplaymathimage}%
11869 \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)%
11870 \LWR@origdollar\LWR@origdollar%
11871 }%
11872 {%
11873 \LWR@origdollar\LWR@origdollar%
11874 \end{lateximage}%
11875 \end{BlockClass}%
11876 }

```

**Env** `LWR@equationother` A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

11877 \newenvironment{LWR@equationother}
11878 {%
11879 \begin{BlockClass}{displaymathnumbered}%
11880 \LWR@newautoidanchor%

```

```

11881 \booltrue{LWR@indisplaymathimage}%
11882 \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
11883 \LWR@orig@equation%
11884 }
11885 {%
11886 \LWR@orig@endequation%
11887 \end{lateximage}%
11888 \end{BlockClass}%
11889 }
```

### 83.4 MATHJAX support

Ctr LWR@nextequation Used to add one to compute the next equation number.

```
11890 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of \theequation to determine \theMathJaxsection and \theMathJaxequation.

```

11891 \newcommand\LWR@article@theequation{\@arabic\c@equation}
11892
11893 \newcommand\LWR@book@theequation
11894 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
11895
11896
11897 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
11898 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
11899 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
11900
11901 \AtBeginDocument{
11902 % default per article class:
11903 \newcommand*\theMathJaxsubequations}{0}
11904 \newcommand*\theMathJaxsection}{}
11905 \newcommand*\theMathJaxequation}{\arabic{equation}}
11906
11907 \ifdef\streq{\theequation}{\LWR@article@theequation}
11908 {}{
11909 \ifdef\streq{\theequation}{\LWR@book@theequation} {
11910 \renewcommand*\theMathJaxsection}{\ifnum \c@chapter>\z@ \thechapter.\fi}
11911 }{
11912 \ifdef\streq{\theequation}{\LWR@subsection@theequation} {
11913 \renewcommand*\theMathJaxsection}{\thesubsection{}}
11914 }{
11915 \ifdef\streq{\theequation}{\LWR@section@theequation} {
11916 \renewcommand*\theMathJaxsection}{\thesection{}}
11917 }{
11918 \ifdef\streq{\theequation}{\LWR@chapter@theequation} {
11919 \renewcommand*\theMathJaxsection}{\thechapter{}}
11920 }% unknown format
11921 \PackageWarningNoLine{lwarf}
11922 {%
11923 Unknown equation tag format for \protect\theequation.\MessageBreak
11924 Article-style equation numbering will be used%
11925 }
```

```

11925 }
11926 }}}} }
11927 }
```

\LWR@syncmathjax Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “`\(`” and “`\)`” characters. They are printed to HTML output, not interpreted by LATEX.

```
11928 \newcommand{\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current LATEX equation number.

Before each equation, l warp inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

**subequations?** is 0 usually, 1 if inside amsmath subequations.

**section** is a string printed as-is, or empty.

**number** is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “`\(`” and “`\)`” characters, to be printed to HTML, not interpreted by LATEX.

```

11929 \LWR@stopars%
11930 \InlineClass{hidden}{%
11931 \textbackslash%
11932 \textbackslash{}seteqnumber%
11933 \{\theMathJaxsubequations\}%
11934 \{\theMathJaxsection\}%
11935 \{\theMathJaxequation\}%
11936 \textbackslash%
11937 }
11938 \LWR@startpars%
11939 }
```

\LWR@hidelatexequation {*environment*} {*contents*}

Creates the LATEX version of the equation inside an HTML comment.

```
11940 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11941 \LWR@stopars
11942 \LWR@htmlopencomment
11943
```

Start the LATEX math environment inside the HTML comment:

```

11944 \begingroup
11945 \nameuse{\LWR@orig@\#1}
```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```
11946 \LWR@restoreorigformatting
11947 \booltrue{\LWR@insidemathcomment}
```

Temporarily prevent underfull \hbox warnings.

```
11948 \hbadness=10000\relax%
```

See \LWR@htmlmathlabel in section 83.7.1.

Print the contents of the equation:

```
11949 #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
11950 \nameuse{\LWR@orig@end#1}
11951 \endgroup
11952
```

Close the HTML comment and resume HTML paragraph handling:

```
11953 \LWR@htmclosecomment
11954 \boolfalse{\LWR@insidemathcomment}
11955 \LWR@startpars
11956 }
```

\LWR@addmathjax {<environment name>} {<contents>}

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
11957 \NewDocumentCommand{\LWR@addmathjax}{m +m}%
11958 \LWR@origtilde\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\(`” and “\)`” characters. Print the environment name and contents, sanitizing for HTML special characters.

```
11959 {%
11960 \LWR@print@ttfamily%
11961 \textbackslash{}begin{\#1\`{}}
```

The alignat environment takes a mandatory argument, which must be replicated here.

```
11962 \ifboolexpr{
11963 test {\ifstreq{\#1}{alignat}} or
11964 test {\ifstreq{\#1}{alignat*}} or
11965 test {\ifstreq{\#1}{alignat+}}}
11966 }
```

```
11967 {\{\arabic{LWR@maxfields@}\}}%
11968 }\%
```

The environment contents and \end:

```
11969 \LWR@orignewline%
11970 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#2}}%
11971 \LWR@orignewline%
11972 \textbackslash{}end\{\#1\}%
11973 }\%
11974 \LWR@orignewline%
11975 }
```

### 83.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```
11976 \AtBeginDocument{
11977 \let\LWR@orig@equation\equation
11978 \let\LWR@orig@endequation\endequation
11979 \csletcs{\LWR@orig@equation*}{equation*}
11980 \csletcs{\LWR@orig@endequation*}{endequation*}
11981 }
```

```
\LWR@doequation {\langle env contents\rangle} {\langle env name\rangle}
```

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the L<sup>A</sup>T<sub>E</sub>X source for the math.

For MATHJAX output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the MATHJAX script.

```
11982 \newcommand*{\LWR@doequation}[2]{%
11983 }
```

If `mathjax` or `FormatWP`, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
11984 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
```

MATHJAX output:

```
11985 {
```

Print commands to syncronize MATHJAX's equation number and format to the current L<sup>A</sup>T<sub>E</sub>X chapter/section and equation number:

```
11986 \LWR@syncmathjax%
```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```
11987 \LWR@hidelatexequation{#2}{#1}
11988 }
```

SVG output: Create the `lateximage` along with an HTML `<alt>` tag having an equation number, the L<sup>A</sup>T<sub>E</sub>X equation environment commands, and the contents of the environment's `\BODY`.

```
11989 {%
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
11990 \ifstrequal{#2}{equation*}{%
11991 \begin{BlockClass}{displaymath}%
11992 }{%
11993 \begin{BlockClass}{displaymathnumbered}%
11994 }{%
11995 \LWR@newautoidanchor%
11996 \booltrue{\LWR@indisplaymathimage}%
11997 \begin{lateximage}[%%
11998 \ifstrequal{#2}{equation*}{%
11999 \ifdefequal{\LWR@equationtag}{\theequation}{%
12000 % no tag was given
12001 }{%
12002 (\LWR@equationtag) % tag was given
12003 }{%
12004 (\LWR@equationtag) % automatic numbering
12005 }{%
12006 \textbackslash{begin}\{#2\}} % extra space
12007 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
12008 \textbackslash{end}\{#2\}}%
12009]*(math)% alt tag, ARIA
12010 }
```

Support for `xfakebold`:

```
12011 \LWR@applyxfakebold%
```

Create the actual L<sup>A</sup>T<sub>E</sub>X-formatted equation inside the `lateximage` using the contents of the environment.

```
12012 @nameuse{\LWR@orig@#2}%
12013 #1% contents collected by \collect@body
12014 @nameuse{\LWR@orig@end#2}%
12015 \end{lateximage}%
12016 \end{BlockClass}%
12017 }% not mathjax
```

Clear the single-use alt text:

```
12018 \gdef\LWR@ThisAltText{}%
12019 }
```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

12020 \newcommand*{\LWR@doendequation}[1]{%
12021 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
12022 {%
12023 \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12024 \InlineClass{hidden}{\LWR@syncnotenumbers}%
12025 \LWR@addmathjax{\#1}{\BODY}%
12026 \InlineClass{hidden}{\LWR@syncnotenames}%
12027 }{%
12028 \LWR@addmathjax{\#1}{\BODY}%
12029 }%
12030 }{%
12031 }

```

Clear the single-use alt text:

```

12032 \gdef\LWR@ThisAltText{}%
12033 }

```

The following are used to synchronize footnote marks and related to MATHJAX if \*note\* is used inside the MATHJAX expression. The counter is read from L<sup>A</sup>T<sub>E</sub>X then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from \footnotename. Other notes may be added by appending to \LWR@syncnotenumbers and \LWR@syncnotenames.

\LWR@synconenotenumber {*MathJax variable*} {*mark*}

```

12034 \newcommand*{\LWR@synconenotenumber}[2]{%
12035 \textbackslash%
12036 \textbackslash{}def\textbackslash{}textbackslash{}{\#1\{\#2\}%
12037 \textbackslash{}textbackslash{}%
12038 }

```

\LWR@syncnotenumbers Assignments to make.

```
12039 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
```

\LWR@synconenotename {*MathJax variable*} {*text*}

```

12040 \newcommand*{\LWR@synconenotename}[2]{%
12041 \textbackslash%
12042 \textbackslash{}textbackslash{}{\#1name\{\#2\}%
12043 \textbackslash{}textbackslash{}%
12044 }

```

\LWR@syncnotenames Assignments to make.

```
12045 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
12046 \AtBeginDocument{
12047 \let\equation\relax
12048 \let\endequation\relax
12049 \csletcs{equation*}{\relax}
12050 \csletcs{\endequation*}{\relax}
12051 }
```

**Env** `equation` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
12052 \AtBeginDocument{
12053 \NewEnviron{equation}%
12054 {\LWR@doequation{\BODY}{equation}}%
12055 [\LWR@doendequation{equation}]
12056
12057 \LetLtxMacro{\LWR@equationnormal}{equation}
12058 \LetLtxMacro{\endLWR@equationnormal}{\endequation}
12059 }% AtBeginDocument
```

**Env** `equation*`

```
12060 \AtBeginDocument{
12061 \NewEnviron{equation*}%
12062 {\LWR@doequation{\BODY}{equation*}}%
12063 [\LWR@doendequation{equation*}]
12064
12065 \csletcs{\LWR@equationnormalstar}{equation*}
12066 \csletcs{\LWR@endequationnormalstar}{endequation*}
12067 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```
12068 \AtBeginDocument{
12069 \LetLtxMacro{\LWR@equationless}{equation}
12070 \LetLtxMacro{\endLWR@equationless}{\endequation}
12071 \csletcs{\LWR@equationlessstar}{equation*}
12072 \csletcs{\LWR@endequationlessstar}{endequation*}
12073 }
```

### 83.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, `MATHJAX` math display environments print their contents as text into `HTML` for `MATHJAX` to interpret, and `SVG` display math environments render their contents as `SVG` images and use their contents as the `alt` tag of `HTML` output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated `Tikz` pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more compli-

**MATHJAX unsupported  
complicated alt tag**

cated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

**\displaymathnormal simple math objects** Use when display math environments have simple math which is to sent to MATHJAX or included in HTML alt tags.

```

12074 \newcommand*{\displaymathnormal}{%
12075 \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12076 \LetLtxMacro{[\LWR@openbracketnormal}%
12077 \LetLtxMacro{]}\LWR@closebracketnormal%
12078 \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%
12079 \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathnormal}%
12080 \LetLtxMacro{\equation}{\LWR@equationnormal}%
12081 \LetLtxMacro{\endequation}{\endLWR@equationnormal}%
12082 \csletcs{equation*}{\LWR@equationnormalstar}%
12083 \csletcs{endequation*}{\LWR@endequationnormalstar}%
12084 }
```

**\displaymathother complicated math objects** Use when display math environments have complicated objects which will not work with MATHJAX or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

12085 \newcommand*{\displaymathother}{%
12086 \boolfalse{mathjax}}%
12087 \LetLtxMacro{\displaymath}{\LWR@displaymathother}%
12088 \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathother}%
12089 \LetLtxMacro{[\LWR@displaymathother}%
12090 \LetLtxMacro{]}\endLWR@displaymathother}%
12091 \LetLtxMacro{\equation}{\LWR@equationother}%
12092 \LetLtxMacro{\endequation}{\endLWR@equationother}%
12093 \csletcs{equation*}{\displaymath}%
12094 \csletcs{endequation*}{\enddisplaymath}%
12095 }
```

```
12096 \end{warpHTML}
```

**for PRINT output:** 12097 \begin{warpprint}

Print-mode versions:

```

12098 \newcommand*{\displaymathnormal}{}%
12099 \newcommand*{\displaymathother}{}%
12100 \end{warpprint}
```

**for HTML output:** 12101 \begin{warpHTML}

## 83.7 AMS Math environments

### 83.7.1 Support macros

Bool LWR@amsmultiline True if processing a multiline environment.

To compensate for multiline-specific code, LWR@amsmultiline is used to add extra horizontal space in \LWR@htmlmathlabel if is used in an amsmath environment which is not a multiline environment and not an equation.

```
12102 \newbool{LWR@amsmultiline}
12103 \boolfalse{LWR@amsmultiline}
```

\LWR@beginhideamsmath Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
12104 \newcommand*{\LWR@beginhideamsmath}{
12105 \LWR@stoppars
12106 \LWR@origtilde\LWR@orignewline
12107 \LWR@htmlopencomment
12108
12109 \begingroup
12110 \LWR@restoreorigformatting
```

Temporarily prevent underfull \hbox warnings.

```
12111 \hbadness=10000\relax%
12112 \booltrue{LWR@insidemathcomment}
12113 }
```

\LWR@endhideamsmath Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
12114 \newcommand*{\LWR@endhideamsmath}{
12115 \endgroup
12116
12117 \LWR@htmclosecomment
12118 \boolfalse{LWR@insidemathcomment}
12119 \LWR@orignewline
12120 \LWR@startpars
12121 }
```

### 83.7.2 Environment patches

The amsmath environments already collect their contents in \envbody for further processing. eqnarray is not an *AMS* package, and thus requires special handling.

For SVG math: Each environment is encapsulated inside a lateximage environment, along with a special optional argument of \LWR@amsmathbody or \LWR@amsmathbodynumbered telling lateximage to use as the HTML <alt> tag the environment's contents which were automatically captured by the *AMS* environment.

For MATHJAX: Each environment is synched with L<sup>A</sup>T<sub>E</sub>X's equation numbers, typeset with L<sup>A</sup>T<sub>E</sub>X inside an HTML comment, then printed to HTML output for MATHJAX to process.

Env eqnarray This environment is not an *AMS* environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into \BODY.

```
12122 \let\LWR@origeqnarray\eqnarray
12123 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12124 \newbool{\LWR@numbereqnarray}
12125 \booltrue{\LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from `fancybox`):

```
12126 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
12127 \ifboolexpr{\bool{mathjax} \or (\ bool{FormatWP} \and \bool{WPMarkMath}) }%
12128 {%
```

If MATHJAX, the environment contents (the \BODY) are executed in a HTML comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for MATHJAX to interpret:

```
12129 \LWR@syncmathjax%
12130 \boolfalse{\LWR@amsmultiline}%
12131 \ifbool{\LWR@numbereqnarray}%
12132 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
12133 \LWR@beginhideamsmath%
12134 \LWR@origeqnarray%
12135 \BODY%
12136 \LWR@origendeqnarray%
12137 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
12138 \LWR@addmathjax{eqnarray}{\BODY}%
12139 }%
12140 {%
 \not \LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
12141 \LWR@addmathjax{eqnarray*}{\BODY}%
12142 }%
 \LWR@numbereqnarray
```

```

12143 }% mathjax
12144 {%
12145 \ifbool{LWR@numbereqnarray}{%
12146 {%

```

For numbered SVG equations, first create a `\teximage` with an `alt` attribute containing sanitized copy of the source code:

```

12147 \begin{BlockClass}{displaymathnumbered}%
12148 \LWR@newautoidanchor%
12149 \booltrue{LWR@indisplaymathimage}%
12150 \begin{teximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
12151 \LWR@addmathjax{eqnarray}{\BODY}]*{math}%

```

Support for `xfakebold`:

```
12152 \LWR@applyxfakebold%
```

Create the image contents using an actual `eqnarray`:

```

12153 \LWR@origeqnarray%
12154 \BODY%
12155 \LWR@origendeqnarray%
12156 \end{teximage}%
12157 \end{BlockClass}%
12158 }%
12159 {%

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

12160 \begin{BlockClass}{displaymath}%
12161 \LWR@newautoidanchor%
12162 \booltrue{LWR@indisplaymathimage}%
12163 \begin{teximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*{math}%

```

Support for `xfakebold`:

```

12164 \LWR@applyxfakebold%
12165 \def\@eqncr{\nonumber\@seqncr}%
12166 \csuse{LWR@origeqnarray}%
12167 \BODY%
12168 \nonumber\csuse{LWR@origendeqnarray}%
12169 \end{teximage}%
12170 \end{BlockClass}%
12171 }% LWR@numbereqnarray
12172 }% not mathjax

```

Default to number equations in the future:

```
12173 \booltrue{LWR@numbereqnarray}%

```

Clear the single-use `alt` text:

---

```
12174 \gdef\LWR@ThisAltText{}%
12175 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
12176 \RenewEnviron{eqnarray}{%
12177 {%
12178 \LWR@eqnarrayfactor
12179 }%
12180 }%
12181 }
```

The starred version is patched to turn off the numbering:

```
12182 \csgpreto{eqnarray*}{\boolfalse{\LWR@numbereqnarray}}%
12183 \end{warpHTML}
```

## 84 Lateximages

### 84.1 Description

**Env** `lateximage` A `lateximage` is a piece of the document which is typeset in L<sup>A</sup>T<sub>E</sub>X then included in the HTML output as an image. This is used for math if SVG math is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 81.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `l warpmk` to extract the `lateximage` from the page of the PDF file then generate an accompanying .svg file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `<span>` is created to hold both the HTML comment, which will have the `pdftotext` conversion, and also the link to the final .svg image.

A L<sup>A</sup>T<sub>E</sub>X label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

**HTML alt tag** The HTML alt tag is set to the L<sup>A</sup>T<sub>E</sub>X source for SVG math, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the alt tag is set according to the package name.

When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after

\inlinemathother, where the contents require a unique image for each instance of the same expression, the alt tag is set to \MathImageAltText, along with \AltTextOpen and \AltTextClose, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by \PackageDiagramAltText. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

**svg image font size** For the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting \LateximageFontSizeName to a font size name—*without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{\normalsize}
```

For inline SVG math, font size is instead controlled by \LateximageFontSize, which defaults to:

```
\newcommand*\LateximageFontSize{.75}
```

## 84.2 Support counters and macros

**for HTML output:** 12184 `\begin{warpHTML}`

Ctr LWR@lateximagenumber Sequence the images.

```
12185 \newcounter{LWR@lateximagenumber}
12186 \setcounter{LWR@lateximagenumber}{0}
```

Ctr LWR@lateximagedepth Do not create `\lateximage` inside of `\lateximage`.

```
12187 \newcounter{LWR@lateximagedepth}
12188 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12189 \edef\LWR@hashmark{\string#} % for use in \write
12190 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctr LWR@LIpage Used to reference the PDF page number of a `lateximage` to be written into `<project>-images.txt`.

```
12191 \newcounter{LWR@LIpage}
```

---

12192 \end{warpHTML}

### 84.3 Font size

**for HTML & PRINT:** 12193 \begin{warpall}

\LateximageFontSizeName Declares how large to write text in \latexitimages. The .svg file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

12194 \newcommand\*\{\LateximageFontSizeName\}{normalsize}

\LateximageFontSize Scale Declares how large to scale inline SVG math images. The .svg file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

12195 \newcommand\*\{\LateximageFontSize\}{1}

12196 \end{warpall}

### 84.4 Equation numbers

**for HTML output:** 12197 \begin{warpHTML}

Ctr LWR@startingequation For use with lateximage and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
12198 \newcounter{LWR@startingequation}
12199
12200 \@ifundefined{chapter}
12201 {
12202 \renewcommand{\theLWR@startingequation}{%
12203 \arabic{LWR@startingequation}%
12204 }
12205 }
12206 {% chapter defined
12207 \renewcommand{\theLWR@startingequation}{%
12208 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}. }{}%
12209 \arabic{LWR@startingequation}%
12210 }
12211 }
```

Bool LWR@isstartingequation True for the first equation tag, false for later tags in the same environment.

12212 \newbool{LWR@isstartingequation}

\LWR@startingequationtag Prints the starting equation number or tag.

```
12213 \let\lWR@startingequationtag\theLWR@startingequation
```

\LWR@equationtag Prints the ending equation number or tag.

This is reset by `\teximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12214 \newcommand*{\LWR@equationtag}{}%
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12215 \AtBeginDocument{%
12216 \ifbool{mathjax}{}{%
12217 \global\boolfalse{LWR@isstartingequation}%
12218 \xdef\LWR@startingequationtag{\#1}%
12219 }%
12220 }
```

\LWR@remembertag  $\{\langle tag \rangle\}$

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12218 \NewDocumentCommand{\LWR@remembertag}{m}{%
12219 \ifbool{LWR@isstartingequation}{%
12220 \global\boolfalse{LWR@isstartingequation}%
12221 \xdef\LWR@startingequationtag{\#1}%
12222 }%
12223 }
```

```
12224 \xdef\LWR@equationtag{\#1}%
12225 }%
12226 }%
12227 }% AtBeginDocument
```

## 84.5 HTML alt tags

\LWR@amsmathbody  $\{\langle envname \rangle\}$  For use inside the optional argument to a `\teximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12228 \newcommand*{\LWR@amsmathbody}[1]{%
12229 \textbackslash\begin\{\#1\} % extra space
12230 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\envbody}}%
12231 \textbackslash\end\{\#1\}%
12232 }
```

\LWR@amsmathbodynumbered  $\{\langle envname \rangle\}$  For use inside the optional argument to a `\teximage` to add the contents of a AMS math environment to the alt tag, prefixed by the equation numbers.

```

12234 \newcommand{\LWR@amsmathbodynumbered}[1]
12235 {%
12236 \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}{%
12237 {(\LWR@equationtag)}%
12238 {(\LWR@startingequationtag\textrandash\LWR@equationtag)} % extra space
12239 \LWR@amsmathbody{\#1} % extra space
12240 }

```

## 84.6 `lateximage` environment

`\LWR@lateximage@oneimageb {<1: alt text>} {<2: filename>} {<3: css style>} {<4: aria role>}` Creates the image for the `lateximage`.

```

12241 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12242 \LWR@subinlineimage{\#1}{lateximage}%
12243 {%
12244 \LWR@print@mbox{%
12245 \LWR@ImagesDirectory\OSPathSymbol%
12246 #2%
12247 }%
12248 }{\#3}{\#4}%
12249 }

```

`\LWR@lateximage@oneimage {<1: alt text>} {<2: filename>} {<3: css style>} {<4: delimit?>} {<5: aria role>}`

Creates an image for the `lateximage`, whose alt text depends on the circumstances.

```

12250 \newcommand{\LWR@lateximage@oneimage}[5]{%
12251 \ifdefvoid{\LWR@ThisAltText}{%
12252 \IfBooleanTF{\#4}{%
12253 \LWR@lateximage@oneimageb{\#1}{\#2}{\#3}{\#5}%
12254 }{%
12255 \LWR@lateximage@oneimageb{%
12256 {\AltTextOpen\#1\AltTextClose}%
12257 {\#2}{\#3}{\#5}%
12258 }%
12259 }{%
12260 \LWR@lateximage@oneimageb{%
12261 {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12262 {\#2}{\#3}{\#5}%
12263 }%
12264 }

```

Env  `lateximage * [<2: <alt> tag] * [<4: add'l hashing>] [<5: css style>] (<6: aria role>)`

Typesets the contents and then renders the result as an svg file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

**image filename hashing** If starred, a hashed filename is used. If so, the hash is based on the alt tag and also

the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated `TEX` expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

`File *_html.aux` A new label is placed into the file `*_html.aux`:

```
\newlabel{LWR@lateximage-<BaseJobname>-<number>}{{<x>}{<y>}}
```

This is used to find the image in the `PDF` file, according to its name.

`File *_images.txt` A list of images to generate is created in `<jobname>-images.txt`. Each line has three pipe-delimited fields, containing the `PDF` page number from `<jobname>.pdf`, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```
12265 \catcode`\$=\active%
12266
12267 \NewDocumentEnvironment{lateximage}{s 0{\ImageAltText} s 0{} 0{} D(){}}
12268 {%
12269 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12270 \LWR@traceinfo{lateximage: entering depth is \arabic{\LWR@lateximagedepth}}%
```

Nested `lateximages` remain one large `lateximage`:

```
12271 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{}
```

If nesting inside an already-existing `lateximage`, simply record one more level. *AMS* packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level `TEX` macros are used for tracking nested `lateximages`.

```
12272 {%
12273 % \addtocounter{\LWR@lateximagedepth}{1}%
12274 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12275 }%
```

Otherwise, this is the outer-most `lateximage`:

```
12276 {%
% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```

12277 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12278 \setcounter{LWR@startingequation}{\value{equation}}%
12279 \addtocounter{LWR@startingequation}{1}%
12280 \booltrue{LWR@isstartingequation}%
12281 \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by \tag:

```
12282 \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```

12283 \addtocounter{LWR@lateximagenumber}{1}%
12284 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```
12285 \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12286 \LWR@ensuredoingapar%
```

Inside the lateximage, temporarily prevent underfull \hbox warnings.

```
12287 \hbadness=10000\relax%
```

Next file:

```

12288 \addtocounter{LWR@externalfilecnt}{1}%
12289 \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%

```

Figure out what the next page number will be. \setcounterpageref assigns LWR@LIPage to the page number for the reference LWR@lateximage-BaseJobname-XXX:

```

12290 \setcounterpageref{LWR@LIPage}{%
12291 LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12292 }%
12293 \LWR@traceinfo{lateximage: LWR@LIPage is \arabic{LWR@LIPage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

12294 \LWR@htmlltag{span\LWR@indentHTML%
12295 id=\textquotedbl{}%
12296 lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12297 \textquotedbl\LWR@indentHTML%
12298 class=\textquotedbl{}lateximagesource\textquotedbl\LWR@orignewline
12299 }%

```

Write instructions to the <ImagesDirectory>.txt file:

```
12300 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
```

```
12301 \IfBooleanTF{#1}{ starred
12302 {%
```

Compute and save the hashed file name for later use:

```
12303 \ifdefvoid{\LWR@ThisAltText}{%
12304 \IfBooleanTF{#3}{%
12305 \edef\LWR@hashedname{%
12306 \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
12307 }%
12308 }{%
12309 \edef\LWR@hashedname{%
12310 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
12311 }%
12312 }%
12313 }{%
12314 \edef\LWR@hashedname{%
12315 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
12316 }%
12317 }%
12318 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%
```

Write the page, hashing, and hashed name:

```
12319 \immediate\write\LWR@lateximagesfile{%
12320 |\arabic{\LWR@LIPage}|true| \LWR@hashedname|%
12321 }%
12322 }% hash
12323 { % no hash
```

No hash, so write the page, no hashing, and the image number:

```
12324 \LWR@traceinfo{lateximage: hash false}%
12325 \immediate\write\LWR@lateximagesfile{%
12326 |\arabic{\LWR@LIPage}|false| \LWR@ImagesName\arabic{\LWR@externalfilecnt}|%
12327 }%
12328 }% no hash
```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```
12329 \LWR@traceinfo{lateximage: about to create open comment}%
12330 \LWR@htmlopencomment%
```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an *AMS* \text, since the outer-most level will never be in math mode.

```
12331 \addtocounter{\LWR@lateximagedepth}{1}%
```

Start the new PDF page:

```
12332 \LWR@traceinfo{lateximage: about to create a new page}%
12333 \LWR@maybe@orignewpage%
```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

12334 \LWR@traceinfo{lateximage: about to create minipage}%
12335 \setcounter{LWR@mpfootnote@store}{\value{mpfootnote}}
12336 \ifdimless{\linewidth}{6in}{%
12337 \LWR@print@minipage{\linewidth}%
12338 }{%
12339 \LWR@print@minipage{6in}%
12340 }%
12341 \ifnumgreater{\value{LWR@minipage@depth}}{0}{%
12342 \setcounter{mpfootnote}{\value{LWR@mpfootnote@store}}%
12343 }%
12344 \nameuse{\LWR@print@\LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for `\hspace`, etc. inside a `lateximage`.

```

12345 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12346 \LWR@restoreorigformatting%

```

If not inside a `minipage`, use full-page footnotes instead of `minipage` footnotes. These become HTML footnotes.

```

12347 \ifnumgreater{\value{LWR@minipage@depth}}{0}{%
12348 {}%
12349 {}%
12350 \def\@mpfn{footnote}%
12351 \def\thempfn{\thefootnote}%
12352 \LetLtxMacro{\footnotetext}{\LWR@footnotetext}%
12353 }%

```

Create the `LWR lateximage<number>` label:

```

12354 \LWR@traceinfo{lateximage: about to create label}%
12355 \LWR@orig@label{\LWR lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12356 \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

12357 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
12358 \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12359 }%

```

Enable print-mode math functions:

```

12360 \LetLtxMacro$\LWR@origdollar%
12361 \catcode`\$=3% math shift
12362 \LetLtxMacro\(\LWR@origopenparen%
12363 \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

12364 \ifbool{LWR@indisplaymathimage}{}{%
12365 \LetLtxMacro{\[\LWR@origopenbracket%}{%
12366 \LetLtxMacro{\]\LWR@origclosebracket%}{%
12367 \let\equation\LWR@orig@equation%}{%
12368 \let\endequation\LWR@orig@endequation%}{%
12369 \csletcs{equation*}{\LWR@orig@equation*}}%}{%
12370 \csletcs{endequation*}{\LWR@orig@endequation*}}%}{%
12371 }% not in display math

```

For chemformula:

```

12372 \LetLtxMacro{\LWR@newsingledollar$}{%
12373 \LetLtxMacro{\LWR@newsingledollar$}{syntax highlighting}{%
12374 }% end of outer-most lateximage
12375 \LWR@traceinfo{lateximage: finished start of environment}{%
12376 }% end of \begin{lateximage}

```

\end{lateximage} When the lateximage environment closes:

```

12377 {%
12378 \LWR@traceinfo{lateximage: starting end of lateximage}{%

```

Nested more than one deep?

```

12379 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}{%
12380 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}{%

```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level TeX macro due to *AMS* \text change of \addtocounter.

```

12381 {%
12382 \LWR@traceinfo{lateximage: unnesting}{%
12383 \global\advance\c@LWR@lateximagedepth -1\relax}{%
12384 }%

```

If this is the outer-most lateximage:

```

12385 {%

```

Finish the lateximage minipage and start a new PDF page:

```

12386 \LWR@traceinfo{lateximage: ending outer-most lateximage}{%
12387 \endLWR@print@minipage}{%
12388 \LWR@maybe@orignewpage}{%

```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```

12389 \LWR@print@vspace*{.5\baselineskip}{%
12390 \LWR@htmclosecomment}{%
12391 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}{%

```

Create a link to the `lateximage`, allowing its natural height:

```
12392 \IfBooleanTF{#1}{ starred
12393 {%
12394 \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}{#6}%
12395 }%
12396 {%
12397 \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}{#6}%
12398 }%
```

Be sure that are doing a paragraph:

```
12399 \LWR@ensuredoingapar%
```

Close the `HTML` span which has the `pdftotext` comment and also the link to the `.svg` image:

```
12400 \LWR@htmlltag{/span}%
12401 \ifbool{HTMLDebugComments}{%
12402 \LWR@htmlcomment{End of lateximage}%
12403 }{}
```

Undo one `lateximage` level. This is not inside an `\text`, so regular `\addtocounter` may be used here.

```
12404 \addtocounter{\LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12405 \gdef\LWR@ThisAltText{}%
12406 }% end of outer-most lateximage
12407 \LWR@traceinfo{lateximage: exiting depth is \arabic{\LWR@lateximagedepth}}%
12408 \LWR@traceinfo{lateximage: done}%
12409 }%
12410 \catcode`\$=3% math shift
12411 \end{warpHTML}
```

**for PRINT output:** 12412 `\begin{warpprint}`

Env `lateximage` \* [`<alt> tag`] \* [`<add'l hashing>`] [`<css style>`]

Ignored in print mode.

```
12413 \NewDocumentEnvironment{lateximage}{s o s o o d()}
12414 {}{}%
12415 \end{warpprint}
```

## 85 center, flushleft, flushright

**for HTML output:** 12416 `\begin{warpHTML}`

Env **center** Replace center functionality with css tags. In a <span>, these macros are nullified, but extra % are used to remove spurious spaces here as well.

```

12417 \newenvironment*{\LWR@HTML@center}
12418 {%
12419 \LWR@forcenewpage%
12420 \ifbool{FormatWP}{%
12421 {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}%
12422 {\BlockClass{center}}{}}%
12423 }%
12424 {\endBlockClass}%
12425
12426 \LWR@formattede{center}
```

Env **flushright**

```

12427 \newenvironment*{\LWR@HTML@flushright}
12428 {%
12429 \LWR@forcenewpage%
12430 \ifbool{FormatWP}{%
12431 {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}{%
12432 {\BlockClass{flushright}}{}}%
12433 }%
12434 {\endBlockClass}%
12435
12436 \LWR@formattede{flushright}
```

Env **flushleft**

```

12437 \newenvironment*{\LWR@HTML@flushleft}
12438 {%
12439 \LWR@forcenewpage%
12440 \ifbool{FormatWP}{%
12441 {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}{%
12442 {\BlockClass{flushleft}}{}}%
12443 }%
12444 {\endBlockClass}%
12445
12446 \LWR@formattede{flushleft}
```

\centering, \raggedleft, and \raggedright usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See \LWR@floatalignment.

\centering

```

12447 \newcommand*{\LWR@HTML@centering}{%
12448 \ifbool{HTMLDebugComments}{%
12449 \LWR@htmlcomment{centering}}{%
12450 }{}}%
12451 }
12452 \LWR@formattede{centering}
```

```
\raggedleft

12453 \newcommand*{\LWR@HTML@raggedleft}{%
12454 \ifbool{HTMLDebugComments}{%
12455 \LWR@htmlcomment{raggedleft}%
12456 }{}%
12457 }
12458 \LWR@formatted{raggedleft}

\raggedright

12459 \newcommand*{\LWR@HTML@raggedright}{%
12460 \ifbool{HTMLDebugComments}{%
12461 \LWR@htmlcomment{raggedright}%
12462 }{}%
12463 }
12464 \LWR@formatted{raggedright}

\leftline {\langle text\rangle}

12465 \renewcommand{\leftline}[1]{\begin{flushleft}\#1\end{flushleft}}

\centerline {\langle text\rangle}

12466 \renewcommand{\centerline}[1]{\begin{center}\#1\end{center}}

\rightline {\langle text\rangle}

12467 \renewcommand{\rightline}[1]{\begin{flushright}\#1\end{flushright}}

12468 \end{warpHTML}
```

## 86 Preloaded packages

**for HTML output:** 12469 \begin{warpHTML}

If the given package was loaded before or by lwarp, load the lwarp version as well.

```
\LWR@PreloadedPackage {\langle packagename\rangle}

12470 \newcommand*{\LWR@PreloadedPackage}[1]{%
12471 \@ifpackageloaded{\#1}{%
12472 {%
12473 \AtBeginDocument{%
12474 \LWR@origRequirePackage{lwarp-\#1}%
12475 }%
12476 }%
12477 }{}%
12478 }
```

If `inputtrc` was loaded before `l warp`, as is usually done, explicitly load the `l warp` patches now:

```
12479 \LWR@PreloadedPackage{inputtrc}
```

If `textcomp` was loaded before `l warp`, perhaps as part of the font-related packages, explicitly load the `l warp` patches now:

```
12480 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `l warp`, perhaps as part of the font-related packages, explicitly load the `l warp` patches now:

```
12481 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `l warp`, perhaps by `xunicode`, explicitly load the `l warp` patches now:

```
12482 \LWR@PreloadedPackage{graphics}
12483 \LWR@PreloadedPackage{graphicx}
```

`scalefnt` may have been preloaded by `babel`

```
12484 \LWR@PreloadedPackage{scalefnt}
```

`fontaxes` must be preloaded so that `l warp` may patch it for `HTML`.

```
12485 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before `l warp`:

```
12486 \LWR@PreloadedPackage{cmbright}
12487 \LWR@PreloadedPackage{fourier}
12488 \LWR@PreloadedPackage{kpfonts}
12489 \LWR@PreloadedPackage{kpfonts-otf}
12490 \LWR@PreloadedPackage{libertinust1math}
12491 \LWR@PreloadedPackage{pxfonts}
12492 \LWR@PreloadedPackage{txfonts}
12493 \LWR@PreloadedPackage{txgreeks}
12494 \LWR@PreloadedPackage{newpxmath}
12495 \LWR@PreloadedPackage{newtxmath}
12496 \LWR@PreloadedPackage{newtxsf}
12497 \LWR@PreloadedPackage{mathalpha}
12498 \LWR@PreloadedPackage{unicode-math}
```

`nfssext-cfr` may be preloaded by `cfm-lm` or related font packages.

```
12499 \LWR@PreloadedPackage{nfssext-cfr}
```

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

```
12500 \LWR@PreloadedPackage{ulem}
```

12501 \LWR@PreloadedPackage{xetexko}

geometry is preloaded by l warp, and perhaps by various classes.

12502 \LWR@PreloadedPackage{geometry}

plex is preloaded by some CJK classes.

12503 \LWR@PreloadedPackage{plex}

stfloats is preloaded by ltj\* classes.

12504 \LWR@PreloadedPackage{stfloats}

lltjext is preloaded by ltj\* classes.

12505 \LWR@PreloadedPackage{lltjext}

luatexko must be loaded before l warp.

12506 \LWR@PreloadedPackage{luatexko}

12507 \end{warpHTML}

## 87 siunitx

Pkg siunitx The l warp core passes a few options to siunitx.

⚠ v3 not yet! sunitx v3 is not yet supported. For now, specify version 2:

\usepackage{siunitx}[=v2]

This may be also be necessary before loading other packages which also use siunitx, such as chemmacros.

**fractions** Due to pdftotext limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠ math mode required Some units will require that the expression be placed inside math mode.

⚠ tabular Tabular S and s columns are rendered as simple c columns. These may be replaced by c columns with each cell contained in \num or \si.

For math mode with SVG display, the original siunitx code is used while generating the SVG image. For text mode, l warp uses an emulation which provides a very effective

⚠ MathJax HTML interpretation of siunitx. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

**custom units**

- Custom units may be added with `\CustomizeMathJax`. See the `l warp-siunitx` code for examples.

**⚠ unit spacing**

- Units work better using `~` between units instead of using periods.

**⚠ \square, \cubic**

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section [8.7.4](#).

**for HTML output:** 12508 `\begin{warpHTML}`

Options for siunitx:

```
12509 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12510 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12511 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
12512 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
12513 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\text{\HTMLunicode{210F}}}}}
12514
12515 \appto{\LWR@restoreorigformatting}{%
12516 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
12517 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12518 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{'}}}%
12519 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{''}}}}%
12520 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
12521 }
12522
12523 \PassOptionsToPackage{%
12524 detect-mode=true,
12525 per-mode=symbol,% fraction is not seen by pdftotext
12526 text-celsius = {\LWR@siunitx@textcelsius},
12527 text-degree = {\LWR@siunitx@textdegree},
12528 text-arcminute = {\LWR@siunitx@textprime},
12529 text-arcsecond = {\LWR@siunitx@textdblprime},
12530 }{siunitx-v2}

12531 \end{warpHTML}
```

## 88 Graphics print-mode modifications

### 88.1 General limitations

Per table [9](#), image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return

**file extensions**

**⚠ case sensitive**

lowercase extensions, even if the filename actually has an uppercase extension, and l warp cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with l warp. For example, name the image file image.pdf instead of image.PDF, but refer to it in the source as image, without an extension. For images which may be used as-is with either print or HTML, such as JPG or PNG, you may use a capitalized extension if it is specified in the source, such as image.JPG.

**\includegraphics file formats**

For \includegraphics with .pdf or .eps files, the user must provide a .pdf or .eps image file for use in print mode, and also a .svg, .png, or .jpg version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, l warp will automatically choose the .pdf or .eps format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

**Prog pdftocairo PDF to SVG** To convert a PDF image to SVG, use the utility *pdftocairo*:

```
Enter ⇒ pdftocairo -svg filename.pdf
```

**Prog l warpmk pdftosvg** For a large number of images, use *l warpmk*:

```
Enter ⇒ l warpmk pdftosvg *.pdf (or a list of filenames)
```

**Prog l warpmk epstopdf** For EPS images converted to PDF using the package *epstopdf*, use

```
Enter ⇒ l warpmk pdftosvg *.PDF
```

to convert to SVG images.

**DVI LATEX** When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

```
Enter ⇒ l warpmk epstopdf *.eps (or a list of filenames)
```

```
Enter ⇒ l warpmk pdftosvg *.pdf (or a list of filenames)
```

**PNG and JPG**

For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF**

GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities**

If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

**duplicate files**

A complication occurs if a file of the same name exists elsewhere in the TeX tree, such as a test image from some LATEX package. TeX looks in the local document directory before considering the directories specified by \graphicspath, but the TeX tree is

**⚠ image not displayed**

found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

- ⚠ graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by `lwarp`—the entire image will be shown.
- units** For `\includegraphics`, avoid px and % units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.
- options** `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys.
- HTML class** With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.
- HTML alt tags** Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.
- ⚠ scale** Avoid using the `\includegraphics scale` option. Change:
 

```
\includegraphics[scale=<xx>]{...}
```

 to:
 

```
\includegraphics[width=<yy>\linewidth]{...}
```
- \rotatebox** `\rotatebox` accepts the optional `origin` key.
- ⚠ browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

## 88.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new `class` key:

```
12532 \begin{warpprint}
12533 \define@key{Gin}{class}{}
12534 \define@key{Gin}{alt}{}
```

Print-mode additions for the `overpic` package. See section 459 for the HTML version.

```
12535 \AtBeginDocument{
```

---

```

12536 \@ifpackageloaded{overpic}{
12537 \newcommand*\overpicfontsize}{12}
12538 \newcommand*\overpicfontskip}{14}
12539 }{ }
12540 }
12541 \end{warpprint}
```

## 89 xcolor boxes

Pkg xcolor A few new definitions are provided for enhanced HTML colored boxes, and \fcolorbox is slightly modified. Print-mode version are also provided.

Print-mode versions of new xcolor defintions. These are defined inside warpall because they are also used for HTML while inside a lateximage. They are defined \AtBeginDocument so that the xcolor originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT:** 12542 \begin{warpall}

After xparses may have been loaded ...

```

12543 \AtBeginDocument{
 ...
 ... and only if xcolor was loaded:
```

```

12544 \@ifpackageloaded{xcolor}{

12545 \LWR@traceinfo{patching xcolor}
```

The print version:

\colorboxBlock \colorboxBlock is the same as \colorbox:

```
12546 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12547 \LetLtxMacro\LWR@orig@print\fcolorbox\fcolorbox
```

\fcolorbox [*framemode*] [*framecolor*] [*boxmodel*] [*boxcolor*] [*text*]

In print mode, \fcolorbox is modified to accept a background color of none.

(\fcolorbox is particular about its optional arguments, thus the elaborate combinations of \ifthenelse.)

```

12548 \newsavebox{\LWR@colorminipagebox}
12549
12550 \NewDocumentCommand{\LWR@print\fcolorbox}{o m o m +m}{%
12551 \LWR@traceinfo{\LWR@print\fcolorbox #2 #4}}%
```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
12552 \begin{lrbox}{\LWR@colorminipagebox}%
12553 #5%
12554 \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
12555 \ifstreq{\#4}{none}%
12556 {%
12557 \LWR@traceinfo{background is none}%
12558 {%
12559 \colorlet{\LWR@currentcolor}{.}%
12560 \color{\#2}%
12561 \fbox{%
12562 \color{\LWR@currentcolor}%
12563 \usebox{\LWR@colorminipagebox}%
12564 }%
12565 }%
12566 }%
12567 {%
12568 \LWR@traceinfo{background not none}%
12569 \IfValueTF{\#1}%
12570 {%
12571 \IfValueTF{\#3}%
12572 {\LWR@orig@print@fcolorbox[\#1]{\#2}{\#3}{\#4}{\usebox{\LWR@colorminipagebox}}}%
12573 {\LWR@orig@print@fcolorbox[\#1]{\#2}{\#4}{\usebox{\LWR@colorminipagebox}}}%
12574 }%
12575 {%
12576 \IfValueTF{\#3}%
12577 {\LWR@orig@print@fcolorbox{\#2}{\#3}{\#4}{\usebox{\LWR@colorminipagebox}}}%
12578 {\LWR@orig@print@fcolorbox{\#2}{\#4}{\usebox{\LWR@colorminipagebox}}}%
12579 }%
12580 {%
12581 \LWR@traceinfo{\LWR@print@fcolorbox done}%
12582 }%
12583 \renewrobustcmd*\fcolorbox{\LWR@print@fcolorbox}%
12584 \newcommand*\fcolorboxBlock{[<framemodel>] {<framecolor>} [<boxmodel>] {<boxcolor>} {<text>}}
```

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```
12584 \newcommand*\fcolorboxBlock{\LWR@print@fcolorbox}
```

```
12585 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}
```

```
Env fcolorminipage [<1:framemodel>] {<2:framecolor>} [<3:boxmodel>] {<4:boxcolor>} [<5:align>] [<6:height>]
 [<7:inner-align>] [<8:width>]
```

In print mode, becomes a `\fcolorbox` containing a `minipage`:

```
12586 \NewDocumentEnvironment{LWR@print@fcolorminipage}{o m o m O{c} O{} o m}
12587 {%
12588 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12589 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```
12590 \IfValueTF{#7}{%
12591 {\begin{minipage}[#5][#6][#7]{#8}}%
12592 {\begin{minipage}[#5][#6][#5]{#8}}%
12593 }%
12594 {%
12595 \end{minipage}}%
12596 \end{lrbox}%
12597 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
12598 \ifstreq{#4}{none}{%
12599 {%
12600 {%
12601 \colorlet{LWR@currentcolor}{.}%
12602 \color{#2}%
12603 \fbox{%
12604 \color{LWR@currentcolor}%
12605 \usebox{\LWR@colorminipagebox}}%
12606 }%
12607 }%
12608 }%
12609 {%
12610 \IfValueTF{#1}{%
12611 {%
12612 \IfValueTF{#3}{%
12613 {\LWR@orig@print@fcolorbox[#1][#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
12614 {\LWR@orig@print@fcolorbox[#1][#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12615 }%
12616 {%
12617 \IfValueTF{#3}{%
12618 {\LWR@orig@print@fcolorbox[#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
12619 {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12620 }%
12621 }%
12622 }%
12623 }
```

---

```
12624 \NewDocumentEnvironment{fcolorminipage}{}
12625 {\LWR@print@fcolorminipage}
12626 {\endLWR@print@fcolorminipage}
```

`xcolor` is known to have been loaded, and provided HTML versions of the following, and the print versions are provided above, so now they may be `\LWR@formatted`.

```
12627 \LWR@formatted{colorbox}
12628 \LWR@formatted{colorboxBlock}
12629 \LWR@formatted{fcolorbox}
12630 \LWR@formatted{fcolorboxBlock}
12631 \LWR@formattedenv{fcolorminipage}

12632 \LWR@traceinfo{xcolor patches done}
12633 }{}% xcolor loaded
12634 }% AtBeginDocument

12635 \end{warpall}
```

## 90 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the `chemmacros` code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

**for PRINT output:** 12636 `\begin{warpprint}`

```
12637 \AtBeginDocument{
12638 @ifpackageloaded{chemmacros}{
```

Env `polymerdelims`

```
12639 \DeclareDocumentEnvironment{polymerdelims}{}
12640 {}{}
```

Env `redoxreaction` {*space above*} {*space below*}

For print output, extra space is included above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section 193.4.

```
12641 \DeclareDocumentEnvironment{redoxreaction}{m m}
12642 {\rule{0pt}{#1}\rule[-#2]{0pt}{#2}}

12643 }{}% chemmacros
12644 }% AtBeginDocument

12645 \end{warpprint}
```

## 91 cleveref

- loading order** cleveref and l warp-cleveref with its associated macro patches are automatically preloaded at the end of the preamble via \AtEndPreamble and \AfterEndPreamble. This is done because the HTML conversion requires cleveref. The user's document may not require cleveref, thus the user may never explicitly load it, so during HTML output l warp loads it last. If the user's document preamble uses cleveref options, or functions such as \crefname, then cleveref may be loaded in the user's preamble near the end, and l warp's additional loading of cleveref will have no effect.
- \AtEndPreamble forces cleveref to be loaded last, if it has not yet been loaded by the user.

```
for HTML output: 12646 \begin{warpHTML}
12647
12648 \AtEndPreamble{
12649 \RequirePackage{cleveref}
12650 }
12651
12652 \end{warpHTML}
```

## 92 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

\label and \pageref do NOT change their behavior according to print or HTML output, and thus do not use the \LWR@formatted system.

```
for HTML output: 12653 \begin{warpHTML}
12654
12655 \LetLtxMacro{\LWR@orig}{\label}{\label} % includes memoir, before cleveref
12656 \LetLtxMacro{\label}{\LWR@new}{\label}
12657
12658 \LetLtxMacro{\LWR@orig}{\pageref}{\pageref}
12659 \LetLtxMacro{\pageref}{\LWR@new}{\pageref}
12660
12661 \end{warpHTML}
```

## 93 picture environment

Env picture The picture environment is enclosed inside a \latextimage.

```
for HTML output: 12662 \begin{warpHTML}
```

Env picture

---

```

12663 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
12664
12665 \AfterEndEnvironment{picture}{\end{lateximage}}
12666 \end{warpHTML}

```

## 94 Minipages and Boxes

A css flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

⚠ **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.

**placement** `minipages` and `\parboxes` will be placed side-by-side in `HTML` unless you place a `\newline` between them.

**side-by-side** Side-by-side `minipages` may be separated by `\quad`, `\quad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and `HTML`. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.

⚠ **minipage in a span** There is limited support for `minipages` inside an `HTML <span>`. An `HTML <div>` cannot appear inside a `<span>`. While in a `<span>`, `minipages`, and `\parboxes`, and any enclosed lists have limited `HTML` tags, resulting in an “`inline`” format, without markup except for `HTML` breaks. Use `\newline` or `\par` for an `HTML` break.

⚠ **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual  $6 \times 9$  inch text area is used for `\ linewidth`, `\textwidth`, and `\textheight`, both for sizing the `minipage`, and also for its contents.

**if width is `\ linewidth`** If a `minipage` or `\parbox` is assigned a width of exactly `\ linewidth`, in `HTML` it is automatically given no `HTML` width, thus allowed to fill the line as needed, similar to how it appears in print output.

**full-width if `HTML`** A new macro `\minipagefullwidth` requests that, during `HTML` output, the next single `minipage` or `\parbox` be generated without an `HTML` `width` attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in `HTML`.

⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every `minipage` or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following `minipages` and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.

⚠ **multicol** Inside a `multicols`, `\ linewidth` is divided by the specified number of columns.

⚠ **text alignment** Nested `minipages` adopt their parent’s text alignment in `HTML`, whereas in regular

LATEX PDF output they do not. Use a `flushleft` or similar environment in the child `minipage` to force a text alignment.

**for HTML output:** 12667 `\begin{warpHTML}`

## 94.1 Computed lengths

Len `\LWR@minipagewidth` Used to convert the width into printable units.

12668 `\newlength{\LWR@minipagewidth}`

Len `\LWR@minipageheight` Used to convert the height into printable units.

12669 `\newlength{\LWR@minipageheight}`

## 94.2 Virtual page size

Ctr `\LWR@virtualpagedepth` Used to only reset the line width at the outermost minipage.

12670 `\newcounter{\LWR@virtualpagedepth}`  
 12671 `\setcounter{\LWR@virtualpagedepth}{0}`

Env `\LWR@setvirtualpage * [<columns>]`

If not nesting a `minipage`, adjust `\ linewidth`, `\ textwidth`, and `\ textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new `minipage`.

The optional number of columns defaults to 1.

```
12672 \NewDocumentEnvironment{\LWR@setvirtualpage}{s 0{1}}{%
 12673 \ifnumequal{\value{\LWR@virtualpagedepth}}{0}{%
 12674 \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
 12675 \setlength{\linewidth}{6in/#2}%
 12676 \setlength{\textwidth}{6in}%
 12677 \setlength{\textheight}{9in}%
 12678 }{%
 12679 \addtocounter{\LWR@virtualpagedepth}{1}%
 12680 }%
 12681 \addtocounter{\LWR@virtualpagedepth}{-1}}
```

## 94.3 Footnote handling

Also see section 60 for other forms of footnotes. Minipage footnotes are gathered in section 60.5, and then placed into the document in section 94.4.

## 94.4 Minipage handling

Bool LWR@minipagefullwidth Should the next minipage have no HTML width?

```
12682 \newbool{LWR@minipagefullwidth}
12683 \boolefalse{LWR@minipagefullwidth}
```

Bool LWR@forceminipagefullwidth Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as `tabular` or `multicols`, where the actual width depends on the browser width. Controlled by `\useminipagewidths` and `\ignoreminipagewidths`.

```
12684 \newbool{LWR@forceminipagefullwidth}
12685 \boolefalse{LWR@forceminipagefullwidth}
```

`\minipagefullwidth` Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12686 `\newcommand*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}`

`\UseMinipageWidths` Locally requests that minipage widths be honored.

```
12687 \newcommand*{\UseMinipageWidths}{\boolefalse{LWR@forceminipagefullwidth}}
```

`\IgnoreMinipageWidths` Locally requests that minipage widths be ignored.

```
12688 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12689 \end{warpHTML}
```

**for PRINT output:** 12690 `\begin{warpprint}`  
 12691 `\newcommand*{\minipagefullwidth}{}{}`  
 12692 `\newcommand*{\UseMinipageWidths}{}{}`  
 12693 `\newcommand*{\IgnoreMinipageWidths}{}{}`  
 12694 `\end{warpprint}`

**for HTML output:** 12695 `\begin{warpHTML}`

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
12696 \newbool{LWR@minipagethispar}
12697 \boolefalse{LWR@minipagethispar}
```

Ctr LWR@minipage@depth Used to track whether to change footnote styles in a `lateximage` inside an HTML minipage.

```
12698 \newcounter{LWR@minipage@depth}
12699 \setcounter{LWR@minipage@depth}{0}
```

Ctr LWR@mpfootnote@store Used to maintain minipage footnote number while nesting inside a `lateximage`.

```
12700 \newcounter{LWR@mpfootnote@store}
```

---

```
Env minipage [<vert position>] [<height>] [<inner vert position>] {<width>}
```

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using \linewidth, \textwidth, or \textheight, these are scaled proportionally to a 6x9 inch text area.

```
12701 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12702 {%
12703 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
12704 \begin{\LWR@setvirtualpage}*%
```

Save the requested width now that \linewidth, etc. are adjusted to virtual size.

```
12705 \setlength{\LWR@minipagewidth}{#4}%
12706 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{%
12707 \addtolength{\LWR@minipagewidth}{3em}%
12708 }{%
12709 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
12710 \setlength{\LWR@minipageheight}{\textheight}%
12711 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

L<sup>A</sup>T<sub>E</sub>X wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
12712 \ifbool{FormatWP}{\newline}{%
12713 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
12714 \ifbool{FormatWP}{%
12715
12716 \addtocounter{\LWR@thisautoidWP}{1}%
12717 \LWR@htmltag{%
12718 div id=\textquotedbl{%
12719 \LWR@print@mbox{autoidWP-\arabic{\LWR@thisautoidWP}}%
12720 \textquotedbl{%
12721 class=\textquotedbl{}wpminipage\textquotedbl{%
12722 }%
12723
12724 }}}}
```

Create the <div> tag with optional alignment style:

```
12725 \LWR@traceinfo{minipage: creating div class}%
```

---

```

12726 \LWR@htmlltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
12727 \ifthenelse{\equal{\#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{}%
12728 \ifthenelse{\equal{\#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{}%
12729 \ifthenelse{\equal{\#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{}%
12730 \ifthenelse{\equal{\#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{}%
12731 \ifthenelse{\equal{\#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{}%
12732 \ifthenelse{\equal{\#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{}%
12733 \ifthenelse{\equal{\#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{}%

```

Print the width and optional height styles:

```

12734 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12735 \ifbool{\LWR@minipagefullwidth}{%
12736 {\global\boolfalse{\LWR@minipagefullwidth}}%
12737 {%
12738 \ifbool{\LWR@forceminipagefullwidth}{%
12739 {}%
12740 {%
12741 \ifdim\#4=\linewidth{%
12742 {}%
12743 \width:\LWR@printlength{\LWR@minipagewidth} ; }%
12744 {}%
12745 }%
12746 \LWR@traceinfo{minipage: about to print the height}}%
12747 \ifblank{\#2}{\height:\LWR@printlength{\LWR@minipageheight} ; }%
12748 \textquotedbl%
12749 }%

```

Finish with an empty line to start the contents on a new line.

```

12750
12751 % The preceding empty line is required.

```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to \linewidth, etc. inside the virtual minipage being created here. \LWR@minipagewidth was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was \linewidth, which was changed to 6in above.

```

12752 \ifnum\value{\LWR@virtualpagedepth}>1{%
12753 \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
12754 }{%
12755 \setlength{\linewidth}{\LWR@minipagewidth}%

```

\raggedright cancels hyphenation, which will be done by HTML instead.

```

12756 \LWR@print@raggedright%

```

```

12757 \LWR@newautopagelabel{page}%

```

Set minipage footnotes:

```

12758 \def\mpfn{\mpfootnote}%

```

---

```
12759 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12760 \let\efootnotetext\@mpfootnotetext%
```

Track depth for `lateximage` footnote type:

```
12761 \addtocounter{LWR@minipage@depth}{1}%
```

Resume paragraph tag handling for the contents of the minipage:

```
12762 \LWR@startpars%
12763 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12764
12765 === begin minipage ===
12766
12767 }{ }%
12768 \LWR@traceinfo{minipage: finished starting the minipage}%
12769 }% finished \minipage
12770 { \% \endminipage
```

Print pending minipage footnotes:

```
12771 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
12772 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12773
12774 === end minipage ===
12775
12776 }{ }%
12777 \LWR@stoppars%
12778
12779 \ifbool{FormatWP}{%
12780
12781 \LWR@htmlelementend{div}%
12782
12783 }{ }%
```

Wrapup:

```
12784 \addtocounter{LWR@minipage@depth}{-1}%

12785 \LWR@htmldivclassend{minipage}%
12786
12787 \end{LWR@setvirtualpage}%
12788 \LWR@startpars%
12789 \ifbool{FormatWP}{\newline}{ }%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
12790 \global\booltrue{LWR@minipagethispar}%
12791 \LWR@traceinfo{LWR@minipage: done}%
```

```

12792 }
12793
12794 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
12795 {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12796 {\endLWR@HTML@sub@minipage}
12797
12798 \LWR@formattenedenv{minipage}

```

## 94.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

**for HTML output:**

```
\parbox [⟨pos⟩] [⟨height⟩] [⟨inner-pos⟩] {⟨width⟩} {⟨text⟩}
```

A parbox uses the minipage code:

```

12799 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12800 {
12801 \LWR@traceinfo{parbox of width #4}%
12802 \begin{minipage}[#1][#2][#3]{#4}%
12803 #5
12804 \end{minipage}%
12805 }
12806
12807 \LWR@formattened{parbox}

```

\mbox {⟨text⟩} Nullified for HTML.

```

12808 \newcommand*{\LWR@HTML@mbox}[1]{{#1}}
12809
12810 \LWR@formattened{mbox}

```

\LWR@@makebox@paren {⟨width⟩} , {⟨height⟩}

Adds to the style in \LWR@temptwo.

```

12811 \NewDocumentCommand{\LWR@@makebox@paren}{m m}{%
12812 \IfValueTF{#2}{%
12813 \setlength{\LWR@tempwidth}{#1\unitlength}%
12814 \setlength{\LWR@tempheight}{#2\unitlength}%
12815 \appto{\LWR@temptwo}{%
12816 \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12817 \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12818 }%
12819 }{%
12820 \PackageError{lwarp}{%
12821 {(width,height) is missing a comma ',' character}%
12822 {\protect\makebox\space and \protect\framebox\space accept
12823 a size in the format (width,height).}%
12824 }%
12825 }

```

```
\LWR@@makebox@align {<alignment character>}
```

Adds to the style in \LWR@temptwo.

```
12826 \newcommand*{\LWR@@makebox@align}[1]{%
12827 \def\LWR@align{center}%
12828 \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
12829 \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
12830 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
12831 \appto{\LWR@temptwo}{%
12832 \LWR@print@mbox{text-align:\LWR@align} ; %
12833 }%
12834 }
```

```
\makebox (<width,height>) [<width>] [<pos>] {<text>}
```

```
12835 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}}d() o o +m}{%
```

Build the style depending on arguments:

```
12836 \begin{\LWR@setvirtualpage}%
12837 \def\LWR@temptwo{}%
12838 \IfValueTF{#1}%
12839 {%
12840 (\width,\height) ..
12841 \LWR@@makebox@paren #1%
12842 \IfValueT{#2}%
12843 {%
12844 (\width,\height) [posn]
12845 \LWR@@makebox@align{#2}%
12846 }%
12847 }%
12848 {%
12849 [\width]
12850 \IfValueT{#2}{ [\width]}
12851 {%
12852 \setlength{\LWR@tempwidth}{#2}%
12853 \ifdimgreater{\LWR@tempwidth}{0pt}{%
12854 \appto{\LWR@temptwo}{%
12855 width:\LWR@printlength{\LWR@tempwidth} ; % space
12856 }%
12857 }%
12858 {%
12859 [\width] [posn]
12860 \LWR@@makebox@align{#3}%
12861 }%
12862 \InlineClass[%
12863 \LWR@print@mbox{display:inline-block} ; %
12864 \LWR@temptwo%
12865]%
12866 {#4}%
12867 \end{\LWR@setvirtualpage}%
12868 }%
12869 \LWR@formatted{makebox}
```

---

\framebox {*width,height*} [*width*] [*pos*] {*text*}

```

12870 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12871 \fbox{\makebox[#1][#2][#3]{#4}}%
12872 }%
12873
12874 \LWR@formatted{framebox}
```

\LWR@forceminwidth {*length*}

Sets \LWR@atleastonept to be at least 1pt.

```

12875 \newlength{\LWR@atleastonept}
12876
12877 \newcommand*{\LWR@forceminwidth}[1]{%
12878 \setlength{\LWR@atleastonept}{#1}%
12879 \ifthenelse{%
12880 \lengthtest{\LWR@atleastonept>0pt}\AND%
12881 \lengthtest{\LWR@atleastonept<1pt}}%
12882 }%
12883 {\setlength{\LWR@atleastonept}{1pt}}%
12884 {}%
12885 }
```

\LWR@fboxstyle Prints the HTML attributes for a black border and padding.

\LWR@forceminwidth must be used first in order to set the border width.

```

12886 \newcommand*{\LWR@fboxstyle}{%
12887 \LWR@findcurrenttextcolor%
12888 \LWR@traceinfo{\LWR@fboxstyle B}%
12889 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12890 padding:\LWR@printlength{\fboxsep} ; %
12891 color:\LWR@origpound\LWR@tempcolor%
12892 }
```

\fbox {*text*}

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after xcolor may have loaded:

```

12893 \newcommand{\LWR@HTML@fbox}[1]{%
12894 \LWR@traceinfo{HTML_fbox}%
12895 \LWR@forceminwidth{\fboxrule}%
12896 \LWR@traceinfo{HTML_fbox_B}%
12897 \InlineClass[%
12898 \LWR@print@mbox{display:inline-block} ; %
12899 \LWR@fboxstyle%
12900]{\fbox}{#1}%
12901 \LWR@traceinfo{HTML_fbox: done}%
12902 }
```

`xcolor` \lets things to `\fbox` when it is loaded, and this must remain even for `HTML` output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```
12903 \AtBeginDocument{\LWR@formatted{fbox}}
```

`\fboxBlock {⟨text⟩}` Creates a framed `HTML` `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

**for HTML & PRINT:**

```
12904 \end{warpHTML}
12905 \begin{warpall}
12906 \let\fboxBlock\fbox
12907 \end{warpall}
12908
12909 \begin{warpHTML}
```

**for HTML output:** Next, an `HTML` version:

```
12910 \newcommand{\LWR@HTML@fboxBlock}[1]{%
12911 \LWR@forceminwidth{\fboxrule}%
12912 \LWR@stoppars%
12913 \begin{BlockClass}[%%
12914 \LWR@fboxstyle%%
12915]{\fboxBlock}
12916 #1
12917 \end{BlockClass}
12918 \LWR@startpars%
12919 }
12920
12921 \LWR@formatted{fboxBlock}
12922
12923 \end{warpHTML}
```

`Env fminipage [⟨align⟩] [⟨height⟩] [⟨align⟩] {⟨width⟩}`

Creates a framed `HTML` `<div>` around its contents.

**for HTML & PRINT:** Print version:

```
12924 \begin{warpall}
12925
12926 \newsavebox{\LWR@fminipagebox}
12927
12928 \NewDocumentEnvironment{\LWR@print@fminipage}{O{t} o O{t} m}%
12929 {%
```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```
12930 \IfValueTF{#3}%
12931 {\def\LWR@thisalign{#3}}
12932 {\def\LWR@thisalign{#1}}%
```

---

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```
12933 \IfValueTF{#2}%
12934 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
12935 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
12936 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
12937 \IfValueTF{#2}%
12938 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12939 {\minipage[#1]{#4}}%
12940 }%
12941 {%
```

Close the inner minipage and the LR box with the contents:

```
12942 \endminipage%
12943 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12944 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12945 \endminipage%
12946 }%
12947
12948 \LetLtxMacro\fminipage\LWR@print@fminipage
12949 \LetLtxMacro\endfminipage\endLWR@print@fminipage
12950 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
12951
12952 \end{warpall}
```

HTML version:

**for HTML output:**

```
12953 \begin{warpHTML}%
12954
12955 \NewDocumentEnvironment{\LWR@HTML@fminipage}{O{t} o O{t} m}%
12956 {%
12957 \LWR@traceinfo{fminipage #1 #2 #3 #4}}%
```

Locally change to the virtual page size before processing the requested sizes:

```
12958 \begin{LWR@setvirtualpage}*%
12959 \setlength{\LWR@tempwidth}{#4}%
12960 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```

12961 \LWR@forceminwidth{\fboxrule}%
12962 \LWR@stopars%
12963 \begin{BlockClass}[%

12964 \LWR@fboxstyle ; %

12965 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%

12966 \ifbool{\LWR@minipagefullwidth}{%

12967 {\global\boolfalse{\LWR@minipagefullwidth}}%

12968 {%
12969 \ifbool{\LWR@forceminipagefullwidth}{%

12970 {}%

12971 {%
12972 \ifdim\tempwidth=\LWR@tempwidth{\linewidth}{%

12973 {}%

12974 {width:\LWR@printlength{\LWR@tempwidth} ; }%

12975 }%
12976 }%
12977]{\fminipage}%
12978 }%
12979 {%
12980 \end{BlockClass}%
12981 \end{\LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12982 \global\booltrue{\LWR@minipagethispar}%
12983 \LWR@traceinfo{fminipage done}%
12984 }%
12985
12986 \LWR@formattede{fminipage}

\raisebox {<raiselen>} [<height>] [<depth>] {<text>}

12987 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12988 #4%
12989 }%
12990
12991 \LWR@formattede{raisebox}

12992 \end{warpHTML}

```

## 95 Direct formatting

⚠ `\bfseries`, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

⚠ `HTML special chars` &, <, and > have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are

used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert &, <, and > to proper HTML entities.

**verbatim** The various `verbatim`-related environments do not convert &, <, and >, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom CSS classes, see section 52.10.

**for HTML & PRINT:** 12993 `\begin{warpall}`

`Bool FixSmallCaps` User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```
12994 \newbool{FixSmallCaps}
12995 \boolefalse{FixSmallCaps}

12996 \end{warpall}
```

**for HTML output:** 12997 `\begin{warpHTML}`

```
\emph {⟨text⟩}

12998 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12999 {%
13000 \LWR@HTML@itshape%
13001 \LWR@htmlspan{em}{#1}%
13002 }%
13003 }
13004
13005 \LWR@formatted{emph}
```

```
\textmd {⟨text⟩}

13006 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
13007 {%
13008 \LWR@HTML@mdseries%
13009 \InlineClass(font-weight:normal){textmd}{#1}%
13010 }%
13011 }
13012
13013 \LWR@formatted{textmd}
```

```
\textbf {⟨text⟩}

13014 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
13015 {%
13016 \LWR@HTML@bfseries%
13017 \LWR@htmlspan{b}{#1}%
13018 }
```

```
13018 }%
13019 }
13020
13021 \LWR@formatted{textbf}

\texteb {<text>} From n ss ext-cfr.

13022 \@ifpackageloaded{n ss ext-cfr}%
13023 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
13024 {%
13025 \LWR@HTML@ebweight%
13026 \InlineClass{texteb}{#1}%
13027 }%
13028 }
13029
13030 \LWR@formatted{texteb}
13031 }{%
13032 \providerobustcmd{\texteb}[1]{}%
13033 }

\textlg {<text>} From n ss ext-cfr.

13034 \@ifpackageloaded{n ss ext-cfr}%
13035 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
13036 {%
13037 \LWR@HTML@lgweight%
13038 \InlineClass{textlg}{#1}%
13039 }%
13040 }
13041
13042 \LWR@formatted{textlg}
13043 }{%
13044 \providerobustcmd{\textlg}[1]{}%
13045 }

\textrm {<text>}

13046 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
13047 {%
13048 \LWR@HTML@rmfamily%
13049 \InlineClass{font-family:serif}{textrm}{#1}%
13050 }%
13051 }
13052
13053 \LWR@formatted{textrm}

\textsf {<text>}

13054 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
13055 {%
13056 \LWR@HTML@sffamily%
13057 \InlineClass{font-family:sans}{textsf}{#1}%
13058 }
```

```
13058 }%
13059 }
13060
13061 \LWR@formatted{textsf}

\texttt {\langle text\rangle}

13062 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
13063 {%
13064 \LWR@HTML@ttfamily%
13065 \LWR@htmlspan{kbd}{#1}%
13066 }%
13067 }
13068
13069 \LWR@formatted{texttt}

\textup {\langle text\rangle}

13070 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
13071 {%
13072 \LWR@HTML@upshape%
13073 \InlineClass{font-style:normal}{textup}{#1}%
13074 }%
13075 }
13076
13077 \LWR@formatted{textup}

\textit {\langle text\rangle}

13078 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
13079 {%
13080 \LWR@HTML@itshape%
13081 \LWR@htmlspan{i}{#1}%
13082 }%
13083 }
13084
13085 \LWR@formatted{textit}

\textsc {\langle text\rangle}

13086 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
13087 {%
13088 \LWR@HTML@scshape%
13089 \InlineClass{textsc}{#1}%
13090 }%
13091 }
13092
13093 \LWR@formatted{textsc}

\textulc {\langle text\rangle} From fontaxes.
```

```
13094 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
13095 {%
13096 \LWR@HTML@ulcshape%
13097 \InlineClass{textulc}{#1}%
13098 }%
13099 }
13100
13101 \LWR@formatted{textulc}

\textsi {<text>}

13102 \@ifundefined{textsi}{
13103 \LetLtxMacro{\LWR@print@textsi}{\LWR@print@textsc}
13104 }{%
13105
13106 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
13107 {%
13108 \LWR@HTML@sishape%
13109 \textsc{\textit{#1}}%
13110 % \InlineClass{%
13111 % font-style: italic;
13112 % font-variant: small-caps ;
13113 % font-variant-numeric: oldstyle-nums ;
13114 % }{textsi}{#1}%
13115 }%
13116 }
13117
13118 \LWR@formatted{textsi}

\textsl {<text>}

13119 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13120 {%
13121 \slshape%
13122 \InlineClass{font-style:oblique}{textsl}{#1}%
13123 }%
13124 }
13125
13126 \LWR@formatted{textsl}

\textssc {<text>}

13127 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
13128 \LWR@formatted{textssc}

\textnormal {<text>}

13129 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{%
13130 % \textmd{\textrm{\textup{#1}}}%
13131 \LWR@HTML@mdseries%
13132 \LWR@HTML@rmfamily%
13133 \LWR@HTML@upshape%
```

```

13134 \InlineClass{%
13135 font-weight:normal; font-family:serif; font-style:normal
13136){textnormal}{#1}%
13137 }
13138
13139 \LWR@formatted{textnormal}

13140 \FilenameNullify{%
13141 \LetLtxMacro\emph{@firstofone}%
13142 \LetLtxMacro\textmd{@firstofone}%
13143 \LetLtxMacro\textbf{@firstofone}%
13144 \LetLtxMacro\texteb{@firstofone}%
13145 \LetLtxMacro\textlg{@firstofone}%
13146 \LetLtxMacro\textrm{@firstofone}%
13147 \LetLtxMacro\textsf{@firstofone}%
13148 \LetLtxMacro\texttt{@firstofone}%
13149 \LetLtxMacro\textup{@firstofone}%
13150 \LetLtxMacro\textit{@firstofone}%
13151 \LetLtxMacro\textsc{@firstofone}%
13152 \LetLtxMacro\textulc{@firstofone}%
13153 \LetLtxMacro\textsi{@firstofone}%
13154 \LetLtxMacro\textsl{@firstofone}%
13155 \LetLtxMacro\textssc{@firstofone}%
13156 \LetLtxMacro\textnormal{@firstofone}%
13157 }

```

Remembers the current font family, series, and shape. `fontaxes` support is integrated here.

```

13158 \newcommand*{\LWR@f@family}{rm}
13159 \newcommand*{\LWR@f@series}{md}
13160 \newcommand*{\LWR@f@shape}{up}
13161 \newcommand*{\LWR@f@shapecaps}{ulc}

```

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

13162 \newcounter{LWR@textcurrentfontdepth}
13163 \setcounter{LWR@textcurrentfontdepth}{0}
13164
13165 \newcommand*{\LWR@textcurrentfont}[1]{%
13166 \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
13167 {%
13168 \addtocounter{LWR@textcurrentfontdepth}{1}%
13169 #1%
13170 \addtocounter{LWR@textcurrentfontdepth}{-1}%
13171 }%
13172 {%
13173 \addtocounter{LWR@textcurrentfontdepth}{1}%
13174 \InlineClass{%
13175 text\LWR@f@family\LWR@origtilde{}%
13176 text\LWR@f@series\LWR@origtilde{}%
13177 text\LWR@f@shape\LWR@origtilde{}%

```

```

13178 text\LWR@f@shapecaps%
13179 }%
13180 {#1}%
13181 \addtocounter{\LWR@textcurrentfontdepth}{-1}%
13182 }%
13183 }
```

Env `\LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```

13184 \newenvironment*{\LWR@blocktextcurrentfont}{%
13185 \LWR@stoppars%
13186 \BlockClass{%
13187 text\LWR@f@family\LWR@origtilde{}%
13188 text\LWR@f@series\LWR@origtilde{}%
13189 text\LWR@f@shape\LWR@origtilde{}%
13190 text\LWR@f@shapecaps%
13191 }%
13192 }{\endBlockClass\LWR@startpars}
```

`\mdseries`

```

13193 \newrobustcmd*{\LWR@HTML@mdseries}{%
13194 \LWR@print@mdseries%
13195 \renewcommand*{\LWR@f@series}{md}%
13196 }%
13197 \LWR@formatted{mdseries}
```

`\bfseries`

```

13198 \newrobustcmd*{\LWR@HTML@bfseries}{%
13199 \LWR@print@bfseries%
13200 \renewcommand*{\LWR@f@series}{bf}%
13201 }%
13202 \LWR@formatted{bfseries}
```

`\ebweight` From `nfssext-cfr`.

```

13203 @ifpackageloaded{nfssext-cfr}%
13204 \newrobustcmd*{\LWR@HTML@ebweight}{%
13205 \LWR@print@ebweight%
13206 \renewcommand*{\LWR@f@series}{eb}%
13207 }%
13208 \LWR@formatted{ebweight}
13209 }{}
```

`\lgweight` From `nfssext-cfr`.

```

13210 @ifpackageloaded{nfssext-cfr}%
13211 \newrobustcmd*{\LWR@HTML@lgweight}{%
13212 \LWR@print@lgweight%
13213 \renewcommand*{\LWR@f@series}{lg}%
13214 }
```

```

13214 }
13215 \LWR@formatted{lgweight}
13216 }{ }

\rmfamily

13217 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13218 \LWR@print@rmfamily%
13219 \renewcommand*{\LWR@f@family}{rm}%
13220 }
13221 \LWR@formatted{rmfamily}

\sffamily

13222 \newrobustcmd*{\LWR@HTML@sffamily}{%
13223 \LWR@print@sffamily%
13224 \renewcommand*{\LWR@f@family}{sf}%
13225 }
13226 \LWR@formatted{sffamily}

\ttfamily

13227 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13228 \LWR@print@ttfamily%
13229 \renewcommand*{\LWR@f@family}{tt}%
13230 }
13231 \LWR@formatted{ttfamily}

```

The following use `\AtBeginDocument` due to the L<sup>A</sup>T<sub>E</sub>X core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

```

\upshape

13232 \newrobustcmd*{\LWR@HTML@upshape}{%
13233 \LWR@print@upshape%
13234 \renewcommand*{\LWR@f@shape}{up}%
13235 }
13236 \AtBeginDocument{\LWR@formatted{upshape}}

\itshape

13237 \newrobustcmd*{\LWR@HTML@itshape}{%
13238 \LWR@print@itshape%
13239 \renewcommand*{\LWR@f@shape}{it}%
13240 }
13241 \AtBeginDocument{\LWR@formatted{itshape}}

```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```
13242 \newrobustcmd*{\LWR@HTML@scshape}{%
13243 \ifbool{FixSmallCaps}{}{%
13244 \LWR@print@scshape%
13245 }%
13246 \renewcommand*{\LWR@f@shapecaps}{sc}%
13247 }
13248 \AtBeginDocument{\LWR@formatted{scshape}}
```

\ulcshape From fontaxes.

```
13249 @ifundefined{ulcshape}{%
13250 \LetLtxMacro\ulcshape\upshape
13251 }{%
13252 \newrobustcmd*{\LWR@HTML@ulcshape}{%
13253 \LWR@print@ulcshape%
13254 \renewcommand*{\LWR@f@shapecaps}{ulc}%
13255 }
13256 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

\sishape

```
13257 @ifundefined{sishape}{%
13258 \LetLtxMacro\sishape\scshape
13259 }{%
13260 \newrobustcmd*{\LWR@HTML@sishape}{%
13261 \ifbool{FixSmallCaps}{}{%
13262 \LWR@print@sishape%
13263 }%
13264 \renewcommand*{\LWR@f@shape}{it}%
13265 \renewcommand*{\LWR@f@shapecaps}{sc}%
13266 }
13267 \AtBeginDocument{\LWR@formatted{sishape}}
```

\slshape

```
13268 \newrobustcmd*{\LWR@HTML@slshape}{%
13269 \LWR@print@slshape%
13270 \renewcommand*{\LWR@f@shape}{sl}%
13271 }
13272 \AtBeginDocument{\LWR@formatted{slshape}}
```

\sscshape

```
13273 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
13274 \AtBeginDocument{\LWR@formatted{sscshape}}
```

\normalfont

```
13275 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13276 \LWR@formatted{normalfont}
```

```
13277 \filenameNullify{%
13278 \LetLtxMacro\rmfamily\@empty%
13279 \LetLtxMacro\sffamily\@empty%
13280 \LetLtxMacro\ttfamily\@empty%
13281 \LetLtxMacro\bfseries\@empty%
13282 \LetLtxMacro\ebweight\@empty%
13283 \LetLtxMacro\lgweight\@empty%
13284 \LetLtxMacro\mdseries\@empty%
13285 \LetLtxMacro\upshape\@empty%
13286 \LetLtxMacro\slshape\@empty%
13287 \LetLtxMacro\sisshape\@empty%
13288 \LetLtxMacro\scshape\@empty%
13289 \LetLtxMacro\itshape\@empty%
13290 \LetLtxMacro\ulcshape\@empty%
13291 \LetLtxMacro\sscshape\@empty%
13292 \LetLtxMacro\normalfont\@empty%
13293 }
```

\sp {<text>}

For `siunitx`. Must work in math mode.

```
13294 \renewcommand{\sp}[1]{\text{^{#1}}{}}
```

\sb{<text>}

For `siunitx`. Must work in math mode.

```
13295 \renewcommand{\sb}[1]{\text{_{#1}}}{}}
```

\textsuperscript {<text>}

13296 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}  
13297 \LWR@formatted{textsuperscript}

\@textsuperscript {*text*}

```
13298 \newcommand{\LWR@HTML@@textsuperscript}{[1]{\LWR@htmlspan{sup}{#1}}}
13299 \LWR@formatted{@textsuperscript}
```

\textsubscript{<text>}

```
13300 \newrobustcmd{\LWR@HTML@textsubscript}{\LWR@htmlspan{sub}{#1}}
13301 \LWR@formatted{textsubscript}
```

\@textsubscript {*text*}

```
13302 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13303 \LWR@formatted{@textsubscript}
```

\up{<text>} Prints superscript.

This is \let at the beginning of the document in case some other package has changed the definition.

```
13304 \AtBeginDocument{\let\up{textsuperscript}}
```

\fup {*text*} Prints superscript.

Supports `fmtcount` package.

This is \let at the beginning of the document in case some other package has changed the definition.

```
13305 \AtBeginDocument{\let\fup{textsuperscript}}
```

\underline {*text*}

```
13306 \renewcommand{\underline}[1]{%
13307 \InlineClass{%
13308 (text-decoration:underline; text-decoration-skip: auto)%
13309 {underline}{#1}%
13310 }}
```

\LWR@overline {*text*}

```
13311 \newcommand{\LWR@overline}[1]{%
13312 \InlineClass{%
13313 (text-decoration:overline; text-decoration-skip: auto)%
13314 {overline}{#1}%
13315 }}
```

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

```
13316 \newcommand*{\LWR@currenttextcolor}{black}
```

\LWR@tempcolor The color converted to HTML colorspace.

\LWR@tempcolortwo

```
13317 \newcommand*{\LWR@tempcolor}{}%
13318 \newcommand*{\LWR@tempcolortwo}{}%
```

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
13319 \newcommand*{\LWR@findcurrenttextcolor}{%
13320 \renewcommand{\LWR@tempcolor}{#000000}%
13321 }
```

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
13322 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13323 \renewcommand*{\LWR@currenttextcolor}{black}%
13324 #1%
13325 }
```

---

13326 \end{warpHTML}

**for PRINT output:** 13327 \begin{warpprint}

\LWR@textcurrentfont {<text>}

Prints the text with the current font choices.

13328 \newcommand\*\LWR@textcurrentfont[1]{#1}

Env \LWR@blocktextcurrentfont Prints the contents with the current font choices.

13329 \newenvironment\*\LWR@blocktextcurrentfont{}{}

\FilenameNullify {<macros to nullify>}

13330 \newcommand\*\FilenameNullify[1]{}{}

13331 \end{warpprint}

## 96 Skips, spaces, font sizes

**for HTML output:** 13332 \begin{warpHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
13333 \AtBeginDocument{
13334 \renewrobustcmd*{\,}{\HTMLunicode{202f}} % HTML thin non-breakable space
13335 \renewrobustcmd*{\thinspace}{\HTMLunicode{202f}} % HTML thin non-breakable space
13336 \renewrobustcmd*{\negthinspace}{\HTMLunicode{202f}} % HTML thin non-breakable space
13337 \renewrobustcmd*{\~}{\HTMLentity{nbsp}}
13338 \renewrobustcmd*{\textellipsis}{\HTMLunicode{2026}}
13339 \renewrobustcmd*{\vdots}{\HTMLunicode{22EE}}
13340 }
```

Direct-formatting font sizes are remembered for future use:

```
13341 \newcommand*\LWR@font@size}{normalsize}
13342
13343 \newrobustcmd*\LWR@HTML@normalsize}{\renewcommand*\LWR@font@size}{normalsize}
13344 \LWR@formatted{normalsize}
13345
13346 \newrobustcmd*\LWR@HTML@small}{\renewcommand*\LWR@font@size}{small}
13347 \LWR@formatted{small}
13348
13349 \newrobustcmd*\LWR@HTML@footnotesize}{\renewcommand*\LWR@font@size}{footnotesize}
```

```
13350 \LWR@formatted{footnotesize}
13351
13352 \newrobustcmd*\{\LWR@HTML@scriptsize\}{\renewcommand*\{\LWR@font@size\}{scriptsize}}
13353 \LWR@formatted{scriptsize}
13354
13355 \newrobustcmd*\{\LWR@HTML@tiny\}{\renewcommand*\{\LWR@font@size\}{tiny}}
13356 \LWR@formatted{tiny}
13357
13358 \newrobustcmd*\{\LWR@HTML@large\}{\renewcommand*\{\LWR@font@size\}{large}}
13359 \LWR@formatted{large}
13360
13361 \newrobustcmd*\{\LWR@HTML@Large\}{\renewcommand*\{\LWR@font@size\}{Large}}
13362 \LWR@formatted{Large}
13363
13364 \newrobustcmd*\{\LWR@HTML@LARGE\}{\renewcommand*\{\LWR@font@size\}{LARGE}}
13365 \LWR@formatted{LARGE}
13366
13367 \newrobustcmd*\{\LWR@HTML@huge\}{\renewcommand*\{\LWR@font@size\}{huge}}
13368 \LWR@formatted{huge}
13369
13370 \newrobustcmd*\{\LWR@HTML@Huge\}{\renewcommand*\{\LWR@font@size\}{Huge}}
13371 \LWR@formatted{Huge}

13372 \DeclareDocumentCommand{\onecolumn}{}{{
13373
13374 \DeclareDocumentCommand{\twocolumn}{O{}}{{
13375
13376 #1
13377
13378 }}
```

## \hfill

```
13379 \newcommand*\{\LWR@HTML@hfill\}{\qquad}
13380 \LWR@formatted{hfill}
```

## \rulefill

```
13381 \newcommand*\{\LWR@HTML@hrulefill\}{%
13382 \ifbool{\LWR@doingapar}{%
13383 {\rule{1in}{1pt}}{%
13384 {%
13385 \LWR@findcurrenttextcolor{%
13386 \ifdefstring{\LWR@tempcolor}{000000}{%
13387 {%
13388 \begin{BlockClass}{hrule}{%
13389 \end{BlockClass}}{%
13390 }{%
13391 {%
13392 \begin{BlockClass}[{%
13393 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
13394]{hrule}{%
13395 \end{BlockClass}}{%
```

```

13396 }%
13397 }%
13398 }%
13399 \LWR@formatted{hrulefill}

\dotfill

13400 \newcommand*{\LWR@HTML@dotfill}{\dots}
13401 \LWR@formatted{dotfill}

```

## \newpage

```

13402 \renewcommand*{\newpage}{%
13403 %
13404 }

```

\newline Uses the HTML <br /> element.

```

13405 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13406 \LetLtxMacro{\newline}{\LWR@newlinebr}

```

\\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

\LWR@endofline \* [<len>]

\\\ is assigned to \LWR@endofline at \LWR@LwarpStart.

Inside tabular, \\\ is temporarily changed to \LWR@tabularendofline.

```

13407 \LetLtxMacro{\LWR@origendofline}{%
13408 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}{%
13409 {%
13410 \newline%

```

```

13411 \setlength{\LWR@templengthone}{#2}%
13412 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{()}%
13413 }

```

- \LWR@minipagestartpars Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a <div> to be inside a p, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, lwarp correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. lwarp tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around \hspace, \enskip, \quad, and \qquad until the end of the paragraph, when the closing p tag is created.

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
13414 \newcommand*{\LWR@minipagestartpars}{%
13415 \ifbool{LWR@minipagethispar}{\LWR@startpars}{}}%
13416 }
```

`\LWR@minipagestopars` Placed just after `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
13417 \newcommand*{\LWR@minipagestopars}{%
13418 \ifbool{LWR@minipagethispar}{\LWR@stopars}{}}%
13419 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
13420 \renewrobustcmd*{\quad}{%
13421 \LWR@minipagestopars%
13422 \HTMLunicode{2003}%
13423 \LWR@minipagestartpars%
13424 }
```

`\qquad` Handles special minipage & horizontal space interactions.

```
13425 \renewrobustcmd*{\qquad}{\quad\quad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
13426 \renewrobustcmd*{\enskip}{%
13427 \LWR@minipagestopars%
13428 \HTMLunicode{2002}%
13429 \LWR@minipagestartpars%
13430 }
```

`\Len \LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

```
Len \LWR@tempheight 13431 \newlength{\LWR@tempwidth}
Len \LWR@tempraise 13432 \newlength{\LWR@tempheight}
 13433 \newlength{\LWR@tempraise}
```

`\LWR@select@html@\hspace * {\<length>} * {\<length>}`  
`\hspace` Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\qquad`.

---

```
13434 \newcommand{\LWR@select@html@hspace}{%
13435 \RenewDocumentCommand{\hspace}{s m}{%
13436 \setlength{\LWR@tempwidth}{##2}}%
```

If `\fill`, change to `\qquad`:

```
13437 \ifnum\gluestretchorder\LWR@tempwidth>0%
13438 \setlength{\LWR@tempwidth}{2em}%
13439 \fi%
```

Only if the width is greater than zero:

```
13440 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13441 \LWR@minipagestopars%
```

Support the HTML thin wrappable space:

```
13442 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
13443 {%
13444 \HTMLunicode{2009}% thin breakable space
13445 }%
```

Print the span with the converted width. Not rounded.

```
13446 {%
13447 \LWR@htmtagc{%
13448 span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
13449 display:inline-block\textquotedbl%
13450 }%
```

If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```
13451 \ifbool{FormatWP}{%
13452 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13453 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13454 \quad\%
13455 \addtolength{\LWR@templengthone}{-1em}%
13456 }%
13457 }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
13458 {\LWR@htmlcomment{}}%
```

Close the span:

```
13459 \LWR@htmtagc{/span}%
13460 }%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13461 \LWR@minipagestartpars%
13462 }{}% width greater than 0
13463 }%
13464 }
```

\LWR@select@html@nohspace \* {*<length>*}
\hspace
Used to disable \hspace while creating description \items.

```
13465 \newcommand{\LWR@select@html@nohspace}{%
13466 \RenewDocumentCommand{\hspace}{s m}{%
13467 }}
```

\LWR@select@print@hspace

```
13468 \newcommand*{\LWR@select@print@hspace}{%
13469 \renewrobustcmd\hspace{\@ifstar\@hspacer\@hspace}%
13470 }
```

\hspace \* {*<length>*}

Handles special minipage & horizontal space interactions.

```
13471 \LWR@select@html@hspace
```

\LWR@vspace \* {*<length>*} Nullified vspace.

```
13472 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
13473
13474 \LWR@formatted{vspace}
```

\linebreak [*num*] Inserts an HTML br tag.

```
13475 \renewcommand*{\linebreak}[1][]{\newline}
```

\nolinebreak [*num*]

```
13476 \renewcommand*{\nolinebreak}[1][]{}
```

\pagebreak [*num*] Starts a new paragraph.

```
13477 \renewcommand*{\pagebreak}[1][]{
13478
13479 }
```

\nopagebreak [*num*]

```
13480 \renewcommand*{\nopagebreak}[1][]{}
```

---

```
\enlargethispage * {<len>}

13481 \RenewDocumentCommand{\enlargethispage}{s m}{}{}
```

```
\clearpage
\cleardoublepage

13482 \renewcommand*{\clearpage}{}%
13483 \renewcommand*{\cleardoublepage}{}%
```

**\rule** [<raise>] {<width>} {<height>}

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

\fill is zero-width, so \hspace{\fill} is ignored.

```
13484 \newcommand*{\LWR@HTML@rule}[3][]{}%
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
13485 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
13486 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
13487 {}% zero- width
13488 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13489 \ifthenelse{%
13490 \lengthtest{\LWR@tempwidth>0pt}\AND%
13491 \lengthtest{\LWR@tempwidth<1pt}%
13492 }%
13493 {\setlength{\LWR@tempwidth}{1pt}}%
13494 }%
```

Likewise with height:

```
13495 \setlength{\LWR@tempheight}{#3}%
13496 \ifthenelse{%
13497 \lengthtest{\LWR@tempheight>0pt}\AND%
13498 \lengthtest{\LWR@tempheight<1pt}%
13499 }%
13500 {\setlength{\LWR@tempheight}{1pt}}%
13501 }%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13502 \LWR@minipagestoppars%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```
13503 \LWR@findcurrenttextcolor%
13504 \LWR@htmntagcf%
13505 span\LWR@indentHTML%
13506 style=\textquotedbl%
```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by \textcolor.

```
13507 \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13508 width:\LWR@printlength{\LWR@tempwidth} ; %
13509 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a css transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```
13510 \ifblank{#1}%
13511 {}%
13512 {%
13513 \setlength{\LWR@tempraise}{0pt-#1}%
13514 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13515 \LWR@indentHTML%
13516 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13517 \LWR@indentHTML%
13518 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13519 \LWR@indentHTML%
13520 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13521 \LWR@indentHTML%
13522 }%
```

Display inline-block to place the span inline with the text:

```
13523 display:inline-block;\textquotedbl\LWR@orignewline%
13524 }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
13525 \ifbool{FormatWP}{%
13526 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13527 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13528 __}}
```

---

```

13529 \addtolength{\LWR@templengthone}{-1em}%
13530 }%
13531 }%

```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```

13532 {\LWR@htmlcomment{}}

```

Close the span:

```

13533 \LWR@htmlltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13534 \LWR@minipagestartpars%
13535 }% non-zero width
13536 }
13537
13538 \LWR@formatted{rule}
13539 \end{warpHTML}

```

## 97 \phantomsection

**for HTML output:** 13540 \begin{warpHTML}

\LWR@phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```

13541 \newrobustcmd*\LWR@phantomsection}{%
13542 \begingroup%
13543 \boolfalse{\LWR@forcinghtmltoc}%
13544 \section*{}%
13545 \endgroup%
13546 }
13547 \end{warpHTML}

```

## 98 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by \LWR@formatted.

For css conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the `metafont` package documentation.

```
for HTML & PRINT: 13548 \begin{warpall}
13549 \newbool{LWR@warnXe}
13550 \boolfalse{LWR@warnXe}
13551
13552 \newrobustcmd*{\Xe}
13553 {%
13554 X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13555 \global\booltrue{LWR@warnXe}%
13556 }
13557
13558 \AtBeginDocument{
13559 \@ifpackageloaded{graphics}{
13560 \@ifpackageloaded{metalogo}{}{
13561 \renewrobustcmd*{\Xe}
13562 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}}
13563 }
13564 }{}
13565 }
13566
13567 \AtEndDocument{
13568 \ifbool{LWR@warnXe}{}{
13569 \PackageWarningNoLine{l warp}{Load graphicx or graphics
13570 for improved XeTeX logo}
13571 }{}
13572 }
13573
13574 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13575 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13576 \providerobustcmd*{\AmS}{%
13577 \leavevmode\hbox{$\mathcal A$\kern-.2em\lower.376ex%
13578 \hbox{$\mathcal M$}\kern-.2em$\mathcal S$}%
13579 }
13580 \newrobustcmd*{\LyX}{\textsf{LyX}}
13581 \providerobustcmd*{\LuaTeX}{\mbox{\Lua\TeX}}
13582 \providerobustcmd*{\LuaLaTeX}{\mbox{\Lua\LaTeX}}
13583 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13584 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13585 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{}t}}
13586 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13587 \end{warpall}
```

for HTML output: 13588 \begin{warpHTML}

The print-mode versions of the following may be changed by `metalogo`, so their print formatting is recorded `\AtBeginDocument`.

\TeX \TeX

`latexlogo` is a css class used to properly typeset the E and A in L<sup>A</sup>T<sub>E</sub>X and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in L<sup>A</sup>T<sub>E</sub>X, LuaT<sub>E</sub>X, ConTeXt, etc.

```

13589 \newrobustcmd*{\LWR@HTML@TeX}
13590 {%
13591 \InlineClass{latexlogofont}%
13592 {%
13593 \InlineClass{latexlogo}%
13594 {%
13595 T%
13596 \InlineClass{latexlogosub}{e}%
13597 X%
13598 }%
13599 }%
13600 }
13601 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX \LATEX, \LATEX2<sub>E</sub>

\LaTeXe

```

13602 \newrobustcmd*{\LWR@HTML@LaTeX}
13603 {%
13604 \InlineClass{latexlogofont}%
13605 {%
13606 \InlineClass{latexlogo}%
13607 {%
13608 L%
13609 \InlineClass{latexlogosup}{a}%
13610 T%
13611 \InlineClass{latexlogosub}{e}%
13612 X%
13613 }%
13614 }%
13615 }
13616
13617 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13618
13619

```

13620 \newrobustcmd\*{\LWR@HTML@LaTeXe}

13621 {%

```

13622 \LaTeX%
13623 \InlineClass{latexlogofont}{%
13624 \InlineClass{latexlogotwoe}{%
13625 2%
13626 \InlineClass{latexlogotwoesub}{\HTMLunicode{03B5}}%
13627 }%
13628 }%
13629 }

```

13630 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

\LuaTeX \LuaT<sub>E</sub>X, \LuaLATEX

\LuaLaTeX

```

13631 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13632 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13633

```

---

```
13634 \newrobustcmd*\{\LWR@HTML@LuaLaTeX\}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13635 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo
```

\XeTeX X<sub>E</sub>T<sub>E</sub>X, X<sub>E</sub>L<sub>A</sub>T<sub>E</sub>X  
 \XeLaTeX  
 xetexlogo is a css class which aligns the backwards E in X<sub>E</sub>T<sub>E</sub>X and spaces T<sub>E</sub>X appropriately.  
 xlabeltexlogo is a css class which aligns the backwards E in X<sub>E</sub>L<sub>A</sub>T<sub>E</sub>X and spaces L<sub>A</sub>T<sub>E</sub>X appropriately.

```
13636 \newrobustcmd*\{\LWR@HTML@Xe\}
13637 {%
13638 X%
13639 \InlineClass{xelatexlogosub}{\HTMLunicode{18e}}%
13640 }
13641 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13642
13643 \newrobustcmd*\{\LWR@HTML@XeTeX\}{\InlineClass{xelatexlogo}{\Xe}\TeX}
13644 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13645
13646 \newrobustcmd*\{\LWR@HTML@XeLaTeX\}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13647 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo
```

\ConTeXt ConTeXt

```
13648 \newrobustcmd*\{\LWR@HTML@ConTeXt\}%
13649 \InlineClass{latexlogofont}{Con}\TeX{}%
13650 \InlineClass{latexlogofont}{t}%
13651 }
13652 \LWR@formatted{ConTeXt}
```

\BibTeX Bi<sub>B</sub>T<sub>E</sub>X, *MakeIndex*  
 \MakeIndex  
 13653 \newrobustcmd\*\{\LWR@HTML@BibTeX\}
 13654 {\InlineClass{latexlogofont}{B\textsc{ib}}}\TeX}
 13655 \LWR@formatted{BibTeX}
 13656
 13657 \newrobustcmd\*\{\LWR@HTML@MakeIndex\}
 13658 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}}
 13659 \LWR@formatted{MakeIndex}

\AmS A<sub>M</sub>S

amslogo is a css class used for the A<sub>M</sub>S logo.

```
13660 \AtBeginDocument{%
13661 \newrobustcmd*\{\LWR@HTML@AmS\}
13662 {%
13663 \InlineClass{amslogo}{%
13664 \textit{%
13665 A%
13666 \InlineClass{latexlogosub}{M}}%
13667 }}
```

---

```

13667 $%
13668 }%
13669 }%
13670 }%
13671 \LWR@formatted{AmS}%
13672 }
```

\MiKTeX MiKTeX

```

13673 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}%
13674 \LWR@formatted{MiKTeX}
```

\LyX LyX

`lyxlogo` is a css class used for the LyX logo.

```

13675 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}%
13676 \LWR@formatted{LyX}
```

  

```

13677 \end{warpHTML}
```

## 99 Starting and stopping lwarf

**for HTML output:** 13678 `\begin{warpHTML}`

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.  
 \LWR@LwarpEnd  
 13679 \AfterEndPreamble{\LWR@LwarpStart}  
 13680 \AtEndDocument{\LWR@LwarpEnd}

  

```

13681 \end{warpHTML}
```

## 100 Loading array

`array` is required for lwarf's column parsing. It and its patches are now loaded.

**for HTML output:** 13682 `\begin{warpHTML}`  
 13683 `\RequirePackage{array}`

The following are compared with the tabular preamble > to add css classes to adjust tabular cells. Defined here now that `\arraybackslash` is defined after `array` is loaded.

```

13684 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}%
13685 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}%
13686 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}%
13687 \def\LWR@detect@itshape{\itshape}%
13688 \def\LWR@detect@bfseries{\bfseries}%
13689 \def\LWR@detect@bfit{\bfseries\itshape}%
13690 \end{warpHTML}
```

## 101 Loading everyshi patches

`everyshi` is emulated by the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded here. `\AtBeginDocument` is used in case an older verison of L<sup>A</sup>T<sub>E</sub>X is used.

```
for HTML output: 13691 \begin{warpHTML}
13692 \AtBeginDocument{
13693 \@ifpackageloaded{everyshi}{
13694 \RequirePackage{lwarp-everyshi}
13695 }{}
13696 }
13697 \end{warpHTML}
```

## 102 Loading textcomp patches

`textcomp` has now been integrated into the L<sup>A</sup>T<sub>E</sub>X core, so its patches are loaded now.

```
for HTML output: 13698 \begin{warpHTML}
13699 \RequirePackage{lwarp-textcomp}
13700 \end{warpHTML}
```

## 103 Loading amsmath, amsthm patches, centernot

`amsmath`, `amsthm`, and `centernot` may have been preloaded, such as by `newtx`, so their patches are loaded now.

```
for HTML output: 13701 \begin{warpHTML}
13702 \@ifpackageloaded{amsthm}{
13703 \RequirePackage{lwarp-amsthm}
13704 }{}

13705 \@ifpackageloaded{amsmath}{
13706 \RequirePackage{lwarp-amsmath}
13707 }{}
```

`amsthm` may load `centernot`, so `centernot` must be checked second.

```
13708 \@ifpackageloaded{centernot}{
13709 \RequirePackage{lwarp-centernot}
13710 }{}

13711 \end{warpHTML}
```

## 104 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

```

for HTML output: 13712 \begin{warpHTML}

13713 \@ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
13714 \@ifclassloaded{scrlatex}{\RequirePackage{lwarp-patch-komascript}}{}
13715 \@ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

13716 \end{warpHTML}

```

## 105 Loading MEMOIR class patches

Load patches to memoir.

```

for PRINT output: 13717 \begin{warpprint}
13718 \@ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}
13719 \end{warpprint}

for HTML output: 13720 \begin{warpHTML}
13721 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
13722 \end{warpHTML}

```

## 106 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

```

for HTML output: 13723 \begin{warpHTML}

13724 \newcommand*{\LWR@patchujtclasses}{

 uj/t does not use \partname

13725 \def\@partnameformat{}

13726 \def\@partcntformat##1{%
13727 \prepartname%
13728 \csname the##1\endcsname%
13729 \postpartname%
13730 \quad%
13731 }
13732 \@ifundefined{chapter}{}{
13733 \def\@chapcntformat##1{%
13734 \prechaptername%
13735 \csname the##1\endcsname%
13736 \postchaptername%
13737 \quad%
13738 }
13739 }
13740 \renewcommand*{\LWR@printchaptername}{}}

```

Use decimal points instead of centered dots:

```

13741 \renewcommand{\thepart}{\@Roman\c@part}
13742 \@ifundefined{chapter}{
13743 \renewcommand{\thesection}{\@arabic\c@section}
13744 }{
13745 \renewcommand{\thechapter}{\@arabic\c@chapter}
13746 \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
13747 }
13748 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
13749 \renewcommand{\thesubsubsection}{%
13750 \thesubsection.\@arabic\c@subsubsection}
13751 \renewcommand{\theparagraph}{%
13752 \thesubsubsection.\@arabic\c@paragraph}
13753 \renewcommand{\thesubparagraph}{%
13754 \theparagraph.\@arabic\c@subparagraph}
13755 \@ifundefined{chapter}{

13756 \renewcommand{\thefigure}{\@arabic\c@figure}
13757 \renewcommand{\thetable}{\@arabic\c@table}
13758 }{
13759 \renewcommand{\thefigure}{%
13760 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13761 \renewcommand{\thetable}{%
13762 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13763 }
13764 }
13765
13766 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}
13767 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}
13768 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}
13769 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}
13770 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}
13771 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}
13772 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}
13773 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}
13774 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}
13775 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}
13776 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}
13777 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}
13778 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}
13779 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}
13780 \@ifclassloaded{ltjtarticle}{\LWR@patchujtclasses}{}
13781 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}
13782 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}

13783 \end{warpHTML}

```

## 107 CTeX patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All CTeX classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch CTeX.

**for HTML output:** 13784 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

13785 \AtBeginDocument{
13786 \@ifpackageloaded{ctexpatch}){
13787 \def\@partcntformat#1{%
13788 \LWR@isolate{\CTEX@partname}~%
13789 \CTEX@part@aftername%
13790 }%
13791 \def\@partnameformat{}%
13792 \def\@chapcntformat#1{%
13793 \LWR@isolate{\CTEX@chaptername}~%
13794 \CTEX@chapter@aftername%
13795 }%
13796 \renewcommand*\LWR@printchaptername{}%
13797 }%
13798 }%
13799 }%
13800 }%
13801 }%
13802 \end{warpHTML}

```

## 108 kotexutf patches

Patch for `kotexutf`, which is loaded before `lwarp`.

`kotexutf`'s `\@setref` was conflicting with `lwarp`'s cross references.

**for HTML output:** 13803 \begin{warpHTML}

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

13804 \AtBeginDocument{
13805 \@ifpackageloaded{kotexutf}){
13806 \def\LWR@kotexutf@setref#1#2#3{%
13807 \@setref@dhucs@orig{#1}{#2}{#3}%
13808 \ifx#1\relax\else
13809 \bgroup
13810 \dhucs@make@cjkchar@null
13811 \edef@\temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13812 \egroup
13813 \fi%
13814 }%
13815 \ifdefequal{\@setref}{\LWR@kotexutf@setref}%
13816 \let\@setref\@setref@dhucs@orig
13817 }%
13818 }%
13819 }%
13820 }%
13821 \end{warpHTML}

```

## 109 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not \PackageWarnings because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using lwarp.

```
for HTML output: 13822 \begin{warpHTML}
13823 \AtBeginDocument{
13824
13825 \@ifpackageloaded{polyglossia}{
13826 \PackageWarningNoLine{lwarp}
13827 {%
13828 Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
13829 See the cleveref documentation regarding\MessageBreak
13830 polyglossia support. Some languages are not supported%
13831 }
13832 \typeout{---}
13833 \typeout{Package lwarp:}
13834 \typeout{If the error}
13835 \typeout{\space\space``! Undefined control sequence.
13836 \space ... \space \protect__hook begindocument''}
13837 \typeout{occurs here, use the polyglossia macro:}
13838 \typeout{\space\space\protect\setmainlanguage\protect{...}\protect{}}
13839 \typeout{---}
13840 }%
13841 \@ifpackageloaded{babel}%
13842 \PackageWarningNoLine{lwarp}
13843 {%
13844 Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
13845 See the cleveref documentation regarding\MessageBreak
13846 babel support. Some languages are not supported%
13847 }
13848 }{%
13849 }%
13850
```

```
13851 }
13852 \end{warpHTML}
```

## 110 MATHJAX warnings

```
\LWR@mathjaxwarn {⟨packagename⟩} {⟨More text.⟩}
```

To be done \AtBeginDocument.

```
13853 \newcommand*{\LWR@mathjaxwarn}[2]{%
13854 \@ifpackageloaded{l warp-#1}{%
13855 \ifblank{#2}{%
13856 \PackageWarningNoLine{l warp}%
13857 {%
13858 L warp provides emulation for MathJax when used\MessageBreak
13859 with the #1 package%
13860 }%
13861 }{%
13862 \PackageWarningNoLine{l warp}%
13863 {%
13864 L warp provides emulation for MathJax when used\MessageBreak
13865 with the #1 package.\MessageBreak
13866 #2%
13867 }%
13868 }%
13869 }{}%
13870 }
13871
13872 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}%
13873 %
13874 % To be done \cs{AtBeginDocument}.
13875 %
13876 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \MathJax.}%
13877 % \changes{v0.895}{2021/01/08}{Improved \MathJax\ warning.}%
13878 %
13879 \newcommand*{\LWR@nomathjaxwarn}[2]{%
13880 \@ifpackageloaded{l warp-#1}{%
13881 \ifblank{#2}{%
13882 \PackageWarningNoLine{l warp}%
13883 {%
13884 L warp does not provide MathJax support for #1.\MessageBreak
13885 Use SVG math by removing the L warp mathjax option%
13886 }%
13887 }{%
13888 \PackageWarningNoLine{l warp}%
13889 {%
13890 L warp does not provide MathJax support for #1.\MessageBreak
13891 #2%
13892 }%
13893 }%
13894 }{}%
13895 }
```

```
\LWR@forceSVGmessage {⟨packagename⟩}
```

```
13896 \newcommand*{\LWR@forceSVGmessage}[1]{%
13897 SVG math output may be enabled for select math\MessageBreak
13898 expressions to preserve #1 visual\MessageBreak
13899 features for those particular expressions.\MessageBreak
13900 Before the chosen inline math, use \protect\inlinemathother\MessageBreak
13901 to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
13902 afterward to resume using MathJax math.\MessageBreak
13903 Before display math, use \protect\displaymathother\MessageBreak
13904 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
13905 after to resume using MathJax for the following math.\MessageBreak
13906 Or, use SVG math for all expressions by removing\MessageBreak
13907 the mathjax option for the l warp package%
13908 }
```

If MATHJAX is being used, issue a warning for certain packages.

```
13909 \AtBeginDocument{
13910 \ifbool{mathjax}{
13911 \LWR@nomathjaxwarn{aligned-overset}{}
13912 \LWR@nomathjaxwarn{amscdx}{}
13913 {\LWR@forceSVGmessage{amscdx}}
13914 \LWR@mathjaxwarn{arydshln}{}
13915 {In a math array, do not use the optional argument\MessageBreak
13916 for \protect\cdashline.\space\space
13917 Furthermore, \protect\cline\space is not\MessageBreak
13918 supported by MathJax}
13919 \LWR@nomathjaxwarn{autoaligne}{}
13920 \LWR@mathjaxwarn{autonum}{}
13921 {MathJax does not support equation+.\MessageBreak
13922 You may use the warpprint and warpHTML\MessageBreak
13923 environments to isolate the package load\MessageBreak
13924 and the equation+ environments}
13925 \LWR@mathjaxwarn{bigdelim}{}
13926 {Delimiters appear only of the first line}
13927 \LWR@nomathjaxwarn{boldtensors}{}
13928 \LWR@mathjaxwarn{booktabs}{}
13929 {\protect\cmidrule\space is not displayed}
13930 \LWR@mathjaxwarn{breqn}{}
13931 {Each environment becomes an SVG image}
13932 \LWR@mathjaxwarn{colortbl}{}
13933 {Colors are ignored in MathJax.\MessageBreak
13934 (Text mode tabular does support colortbl.)\MessageBreak
13935 \LWR@forceSVGmessage{colortbl}}
13936 \LWR@mathjaxwarn{delarray}{}
13937 {\LWR@forceSVGmessage{delarray}}
13938 \LWR@nomathjaxwarn{gauss}{}
13939 {\LWR@forceSVGmessage{gauss}}
13940 \LWR@mathjaxwarn{hhline}{}
13941 {A simple \protect\hline\space is used}
13942 \LWR@mathjaxwarn{isomath}{}
13943 {Some of the symbol font macros such as \protect\mathsf{bf}\MessageBreak
13944 do not use a sans font because MathJax does not yet\MessageBreak
13945 have sans Greek. Tensors may look like vectors%}
```

```
13946 }
13947 \LWR@nomathjaxwarn{jkmath}
13948 {\LWR@forceSVGmessage{jkmath}}
13949 \LWR@mathjaxwarn{libertinust1math}
13950 {Some of the symbol font macros such as \protect\mathsf{fb}\MessageBreak
13951 do not use a sans font because MathJax does not yet\MessageBreak
13952 have sans Greek. Tensors may look like vectors%
13953 }
13954 \LWR@mathjaxwarn{mathtools}
13955 {See the Lwarf manual regarding the disallowspaces\MessageBreak
13956 and showonlyrefs options, the alignat environment,\MessageBreak
13957 and \protect\DeclarePairedDelimiter\space and related%
13958 }
13959 \LWR@mathjaxwarn{mathspec}
13960 {Double quotes are removed, even inside \protect\text}
13961 \LWR@mathjaxwarn{multirow}
13962 {Multirow works as expected in text mode, but\MessageBreak
13963 limited emulation is provided for MathJax math.\MessageBreak
13964 \protect\multirow\space ignores all arguments except\MessageBreak
13965 the text}
13966 \LWR@mathjaxwarn{nicematrix}
13967 {Keys/values are ignored in MathJax.\MessageBreak
13968 \protect\cdots, etc. do not span multiple cells.\MessageBreak
13969 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
13970 \protect\CodeBefore\space cannot be done with MathJax.\MessageBreak
13971 \LWR@forceSVGmessage{nicematrix}%
13972 }
13973 \LWR@nomathjaxwarn{pb-diagram}
13974 {\LWR@forceSVGmessage{pb-diagram}}
13975 % \LWR@mathjaxwarn{physics}
13976 % {The third-party extension is not used.\MessageBreak
13977 % {The MathJax v3 extension is used.\MessageBreak
13978 % See the Lwarf manual for details}
13979 \LWR@nomathjaxwarn{tensind}{}
13980 \LWR@mathjaxwarn{unicode-math}
13981 {Do not use embedded Unicode characters.\MessageBreak
13982 {Not all characters are encoded correctly.)\MessageBreak
13983 Some symbol fonts are not supported by MathJax,\MessageBreak
13984 and are only approximated.\MessageBreak
13985 Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
13986 option. Latin symbols does not, per MathJax\MessageBreak
13987 limitations, unless placed inside \protect\symbit\space or similar}
13988 \LWR@nomathjaxwarn{unitsdef}{}
13989 \LWR@mathjaxwarn{witharrows}
13990 {Arrows can only point to the next line.\MessageBreak
13991 Text is only placed on a single line}
13992 \LWR@nomathjaxwarn{xy}
13993 {In text, xy works as-is. SVG images will be generated.\MessageBreak
13994 \LWR@forceSVGmessage{xy}}
13995 }{}
13996 }
```

---

**File 2 l warp-2in1.sty****§ 111 Package 2in1**

Pkg 2in1 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

**File 3 l warp-2up.sty****§ 112 Package 2up**

Pkg 2up 2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```
2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\TwoupWrites{}
```

---

**File 4 l warp-a4.sty****§ 113 Package a4**

Pkg a4 a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```
2 \newcommand*\WideMargins{}
```

---

**File 5 l warp-a4wide.sty****§ 114 Package a4wide**

Pkg a4wide a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

---

**File 6 l warp-a5comb.sty****§ 115 Package a5comb**

Pkg a5comb a5comb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a5comb}

---

**File 7 l warp-abstract.sty****§ 116 Package abstract**

(Emulates or patches code by PETER WILSON.)

Pkg abstract abstract is supported and patched by l warp.

**⚠ missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** memoir provides an abstract environment even though it is not an article or report class. Meanwhile, l warp loads book to emulate memoir, but book does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provided here:

1 \ProvideDocumentEnvironment{abstract}{}{}{}

Accept all options for l warp-abstract:

2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]

3 \AtBeginDocument{  
4 \BeforeBeginEnvironment{abstract}{  
5 \LWR@forcenewpage  
6 \BlockClass{abstract}}

```
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitleskip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }

17 \@ifclassloaded{memoir}
18 {
19 \renewenvironment{abstract}{%
20 % \titlepage
21 % \null\vfil
22 % \begin{parpenalty}\@lowpenalty
23 \setup@bstract
24 \if@bsrunin
25 \else
26 \if@bsstyle
27 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}%
28 \else
29 \ifnumber@bs
30 \num@bs
31 \else
32 \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}%
34 \end{parpenalty}\@M
35 \end{\absnamepos}%
36 \vspace{\abstitleskip}%
37 \fi
38 \fi
39 \vspace{\abstitleskip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}\% \vfil\null%\endtitlepage
44 }

45 }{\% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48 % \titlepage
49 \null\vfil
50 \begin{parpenalty}\@lowpenalty
51 \if@bsrunin
52 \else
53 \if@bsstyle
54 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}%
55 \else
56 \ifnumber@bs
57 \num@bs
58 \else
59 \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
```

```

61 \end{parpenalty}\@M
62 \end\absnamepos%
63 %% \vspace{\abstitleskip}%
64 \fi
65 \fi
66 \vspace{\abstitleskip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}%
78 \else
79 \ifnumber@bs
80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %% \vspace{\abstitleskip}%
86 \fi
87 \fi
88 \vspace{\abstitleskip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

#### File 8 l warp-academicons.sty

### § 117 Package **academicons**

(Emulates or patches code by Diogo A. B. FERNANDES.)

Pkg academicons academicons is patched for use by l warp.

If \aiicon is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]

2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%

```

---

```

7 \begin{lateximage}*[academicon][academicons#1]%
8 \begingroup%
9 \LWR@academicons@orig@AI%
10 \LWR@orig@symbol{\#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16 \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21 \begin{lateximage}*[#1 icon][academicons#1]%
22 \AI\csname aiicon@\#1\endcsname%
23 \end{lateximage}%
24 }
```

---

### File 9 **lwarp-accents.sty**

## § 118 Package **accents**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg accents accents is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output  $\text{\LWR@ProvidesPackagePass\{accents\}}[2006/05/12]$

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}
```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for \underaccent, the originals are remembered here, then they are temporarily redefined and used inside \underaccent, then restored to their originals. \LARGE gives a reasonable size, and \raise is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
```

---

```

16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20 {%
21 \renewcommand{\grave}{\LARGE\grave{##1}}%
22 \renewcommand{\acute}{\LARGE\acute{##1}}%
23 \renewcommand{\check}{\LARGE\check{##1}}%
24 \renewcommand{\breve}{\LARGE\breve{##1}}%
25 \renewcommand{\bar}{\LARGE\bar{##1}}%
26 \renewcommand{\hat}{\LARGE\hat{##1}}%
27 \renewcommand{\dot}{\LARGE\dot{##1}}%
28 \renewcommand{\tilde}{\LARGE\tilde{##1}}%
29 \renewcommand{\ddot}{\LARGE\ddot{##1}}%
30 \renewcommand{\vec}{\LARGE\vec{##1}}%
31 \renewcommand{\widetilde}{\LARGE\widetilde{}\hphantom{##1}}%
32 \underset{\raise 2pt {#1}}{\widetilde{##2}}%
33 \let\grave\grave%
34 \let\acute\acute%
35 \let\check\check%
36 \let\breve\breve%
37 \let\bar\bar%
38 \let\hat\hat%
39 \let\dot\dot%
40 \let\tilde\tilde%
41 \let\ddot\ddot%
42 \let\vec\vec%
43 \let\widetilde\widetilde%
44 }%
45 }%
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{}}}{##1}%
49 }%
50 \end{warpMathJax}

```

---

#### File 10 **lwarp-accessibility.sty**

### § 119 Package **accessibility**

Pkg **accessibility** **accessibility** is emulated.

**for HTML output:** Discard all options for **lwarp-accessibility**:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}{\textbf{#1}}

```

For **MATHJAX**:

---

```

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{}}
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}
```

---

File 11 **l warp-accsupp.sty**

§ 120 Package **accsupp**

Pkg accsupp accsupp is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```

2 \newcommand*\BeginAccSupp[1]{}
3 \newcommand*\EndAccSupp[1]{}
```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{}}
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{}}
7 \end{warpMathJax}
```

---

File 12 **l warp-acro.sty**

§ 121 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro acro is patched for use by l warp.

⚠ formats Define acronymn formats using \textbf instead of \bfseries etc.

for HTML output: 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

\DeclareAcronym is used in the preamble, where l warp has not yet made the dollar active, so temporarily enable l warp math catcode just for this definition:

```

2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5 \acro_declare_acronym:nn {#1} {#2}
6 \catcode`\$=3% l warp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11 \catcode`\$=\active% l warp
12 \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```
14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: {\dots\space}
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```

18 \ExplSyntaxOn
19 \@ifpackagelater{acro}{2020/04/29}%
20 {}% v3 or later
21 {}% before v3
22 \@ifpackagelater{acro}{2019/09/23}%
23 {}% v2.10 or later
24 \cs_gset_protected:Npn __acro_typeset:nn #1#2
25 {
26 \mode_if_horizontal:F { \leavevmode }
27 \group_begin:
28 \use:x
29 {
30 \bool_if:cTF {l__acro_custom_#1_format_bool}
31 { \exp_not:v {l__acro_custom_#1_format_tl} }
32 { \exp_not:v {l__acro_#1_format_tl} }
33 {\exp_not:N\lWR@textcurrentfont{#2}}% lwrap
34 }
35 \group_end:
36 }
37
38 \cs_gset_protected:Npn __acro_ending_format:nn #1#2
39 {
40 \bool_if:NTF \l__acro_include_endings_format_bool
41 {
42 \str_case:nn {#1}
43 {
44 {long}
45 {
46 \bool_if:NTF \l__acro_custom_long_format_bool
47 { \l__acro_custom_long_format_tl }
48 {
49 \bool_if:NTF \l__acro_first_instance_bool
50 { \l__acro_first_long_format_tl }
51 { \l__acro_long_format_tl }
52 }
53 }
54 {short}
55 {
56 \bool_if:NTF \l__acro_custom_short_format_bool
57 { \l__acro_custom_short_format_tl }
58 { \l__acro_short_format_tl }
59 }
60 {alt}
61 {
62 \bool_if:NTF \l__acro_custom_alt_format_bool
63 { \l__acro_custom_alt_format_tl }

```

```
64 { \l__acro_alt_format_tl }
65 }
66 }
67 }
68 { \use:n
69 {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71 }% v2.10 or later
72 {% before v2.10
73 \cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75 \mode_if_horizontal:F { \leavevmode }
76 \group_begin:
77 \bool_if:NTF \l__acro_custom_format_bool
78 { \l__acro_custom_format_tl }
79 { \l__acro_short_format_tl }
80 {\LWR@textcurrentfont{#2}}% lwarp
81 \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86 \mode_if_horizontal:F { \leavevmode }
87 \group_begin:
88 \bool_if:NTF \l__acro_custom_format_bool
89 { \l__acro_custom_format_tl }
90 { \l__acro_alt_format_tl }
91 {\LWR@textcurrentfont{#2}}% lwarp
92 \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2
96 {
97 \mode_if_horizontal:F { \leavevmode }
98 \group_begin:
99 \bool_if:NTF \l__acro_custom_long_format_bool
100 { \l__acro_custom_long_format_tl }
101 { \use:n }
102 {
103 \use:x
104 {
105 \exp_not:n {#1}
106 {
107 \bool_if:NTF \l__acro_first_upper_bool
108 { \exp_not:N __acro_first_upper_case:n { \exp_not:n {
109 \LWR@textcurrentfont{#2}}% lwarp
110 } } }
111 { \exp_not:n { \LWR@textcurrentfont{#2} } }% lwarp
112 }
113 }
114 }
115 \group_end:
116 }
117 }% before v2.10
118 }% before v3
```

---

```
119 \ExplSyntaxOff
```

---

File 13 **l warp-acronym.sty**

§ 122 Package **acronym**

*(Emulates or patches code by TOBIAS OETIKER.)*

Pkg acronym acronym is patched for use by l warp.

⚠ multiply-defined labels \acresetall does not work with cleveref, causing multiply-defined labels. l warp patches acronym for HTML, but not for print mode.

for HTML output: 1 \LWR@ProvidesPackagePass{acronym}[2015/03/21]

Uses \textit instead of \itshape:

```
2 \renewcommand{\acfia}[1]{%
3 {\textit{\AC@acl{#1}}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}
```

Removes the mbox to allow math inside:

```
4 \renewcommand*\AC@acs[1]{%
5 \mbox{%
6 \expandafter\AC@get\csname fn@\#1\endcsname\@firstoftwo{#1}}%
7 }
```

Fix for acronym labels in the captions of floats.

```
8 \renewcommand{\@starttoc}[1]{%
9 \LWR@htmlelementclass{nav}{#1}%
10 \LetLtxMacro{\verridelabel}{\gobble}%
11 \LWR@orig@starttoc{#1}%
12 \LWR@htmlelementclassend{nav}{#1}%
13 }
```

Modified for cleveref and l warp:

```
14 \renewcommand*\AC@und@newl@bel[3]{%
15 \@ifundefined{#1@#3}{%
16 {%
17 \global\expandafter\let\csname#2@#3\endcsname\@nnil%
18 \global\expandafter\let\csname#2@#3@l warp\endcsname\@nnil% l warp
19 \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% l warp
20 }%
21 {%
22 \global\expandafter\let\csname#1@#3\endcsname\relax%
23 \global\expandafter\let\csname#1@#3@l warp\endcsname\relax% l warp
24 \global\expandafter\let\csname#1@#3@cref\endcsname\relax% l warp
25 }%
26 }%
```

---

**File 14 l warp-adjmulticol.sty**

§ 123      Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg adjmulticol adjmulticol is emulated.

Emulation similar to `multicols` is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, `l warp` allows a variable number of columns up to three.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]
2 \RequirePackage{multicol}
adjmultcols * {\langle numcols\rangle} {\langle left margi\rangle} {\langle right margin\rangle}
3 \NewDocumentEnvironment{adjmultcols}{s m m m}
4 {%
```

Compute the margins, and limit to positive only:

```
5 \setlength{\LWR@templengthone}{#3}%
6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{}%
7 \setlength{\LWR@templengthtwo}{#4}%
8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{}%
```

If one column is specified, use a `<div>` of class `singlecolumn`, else use `multicols`:

```
9 \newcommand*{\LWR@mcolstype}{multicols}%
10 \ifnumcomp{#2}{=}{1}{\renewcommand*{\LWR@mcolstype}{singlecolumn}}{}%
```

Help avoid page overflow:

```
11 \LWR@forcenewpage%
```

Create the `<div>` with the given margin and class:

```
12 \BlockClass[%
13 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
14 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%
15]{\LWR@mcolstype}%
16 }
17 {\endBlockClass}
```

---

**File 15 l warp-addlines.sty****§ 124 Package addlines**

(Emulates or patches code by WILL ROBERTSON.)

Pkg addlines addlines is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

```
2 \newcommand\addlines{@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}}
4 \let\addline\addlines
5 \newcommand\removelines{@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}}
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{}}
```

---

**File 16 l warp-afterpage.sty****§ 125 Package afterpage**

(Emulates or patches code by DAVID CARLISLE.)

Pkg afterpage afterpage is emulated.

**for HTML output:** Discard all options for l warp-afterpage:

```
1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]
2 \newcommand{\afterpage}[1]{#1}
```

---

**File 17 l warp-algorithm2e.sty****§ 126 Package algorithm2e**

(Emulates or patches code by CHRISTOPHE FIORIO.)

Pkg algorithm2e algorithm2e is patched for use by l warp.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

```
2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}
```

Select the **lwarp** float style according to the **algorithm2e** style:

```
3 \newcommand*{\LWR@floatstyle@algocf}{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*{\LWR@floatstyle@algocf}{boxed}
7 }{%
8
9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*{\LWR@floatstyle@algocf}{boxruled}
11 }{%
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*{\LWR@floatstyle@algocf}{plain}
15 }}
```

Paragraph handling to allow line numbers under certain conditions:

```
16 \renewcommand{\algocf@everypar}{%
17 \ifbool{\LWR@algocf@dopars}{%
18 \ifbool{\LWR@doingstartpars}{%
19 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
20 {}%
21 {}%
```

**algorithm2e** uses **\everypar**, so the open paragraph tag is generated here instead of **\LWR@openparagraph**:

```
22 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
23 \algocf@everyparnl\algocf@everyparhanging%
24 }%
25 }%
26 }%
27 }
```

**lwarp** caption handling:

```
28 \renewcommand{\algocf@makecaption}[2]{%
29 \LWR@HTML@caption@begin{\algocf}%
30 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
31 \LWR@HTML@caption@end%
32 }
```

Print any caption where it is declared:

```
33 \renewcommand{\algocf@makecaption@plain}[2]{%
34 \LWR@HTML@caption@begin{\algocf}%
35 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
36 \LWR@HTML@caption@end%
```

```

37 }
38
39 \renewcommand{\algocf@makecaption@boxed}[2]{%
40 \LWR@HTML@caption@begin{\algocf}%
41 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
42 \LWR@HTML@caption@end%
43 }
44
45 \renewcommand{\algocf@makecaption@ruled}[2]{%
46 \LWR@HTML@caption@begin{\algocf}%
47 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
48 \LWR@HTML@caption@end%
49 }

```

Turn off line numbering while making the caption:

```

50 \long\def\algocf@latexcaption#1[#2]#3{%
51 % original definition of caption
52 \boolfalse{LWR@algocf@dopars}%
53 \warp
54 \par%
55 \addcontentsline{\csname ext@\#1\endcsname}{#1}%
56 {\protect\numberline{\csname the\#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
57 \begingroup%
58 \parboxrestore%
59 \if@minipage%
60 \setminipage%
61 \fi%
62 \normalsize%
63 \makecaption{\csname fnum@\#1\endcsname}{\ignorespaces #3}\par%
64 \endgroup%
65 \booltrue{LWR@algocf@dopars}%
66 \warp
67 }

```

Line numbers are printed in a <span> of class alg2elinenumber:

```

68 \renewcommand{\algocf@printlnl}[1]{%
69 \InLineClass{alg2elinumber}{\NlSty{#1}}%
70 }

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the `figure` option was used.

```

71 \preto{\algocf@init}{%
72 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
73 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

74 \renewcommand{@algocf@start}{%
75 \let@mathsemicolon=; \def\;{\ifmmode\mathsemicolon\else\endalgoln\fi}%
76 \raggedright%
77 \AlFnt{}%
78 \booltrue{LWR@algocf@dopars}%
79 \warp
80 }

```

```

77
78 \renewcommand{\@algocf@finish}{%
79 \boolearnonfalse{LWR@algocf@dopars}%
80 \vlineskip\normalvlineskip\setlength{\skiptotal}{\@defaultskiptotal}%
81 \let\;=\@mathsemicolon%
82 \let\]=\@emathdisplay%
83 }

```

Use an HTML break:

```

84 \renewcommand{\BlankLine}{%
85 \LWR@stoppars%
86 \LWR@htmlltagc{br /}%
87 \LWR@startpars%
88 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

89 \renewcommand{\SetKwInOut}[2]{%
90 \algocf@newcommand{\#1}[1]{%
91 \ifthenelse{\boolean{\algocf@hanginginout}}{%
92 {\relax}%
93 {\algocf@seteveryparhanging{\relax}}%
94 }{%
95 {\relax}%
96 {\algocf@seteveryparnl{\relax}}%
97 }{%
98 \KwSty{\#2\algocf@typo:}%
99 ~##1\par%
100 }%
101 \algocf@linesnumbered% reset the numbering of the lines
102 \ifthenelse{\boolean{\algocf@hanginginout}}{%
103 {\relax}%
104 {\algocf@reseteveryparhanging}}%
105 }%
106 }%
107
108 \renewcommand{\ResetInOut}[1]{}

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

109 \renewcommand{\algocf@Vline}[1]{%
110 \boolearnonfalse{LWR@algocf@dopars}%
111 \begin{BlockClass}{alg2evline}%
112 \boolearnontrue{LWR@algocf@dopars}%
113 #1%
114 \boolearnonfalse{LWR@algocf@dopars}%
115 \end{BlockClass}%
116 \boolearnontrue{LWR@algocf@dopars}%
117 }

118 \renewcommand{\algocf@Vsline}[1]{%
119 \boolearnonfalse{LWR@algocf@dopars}%
120 \begin{BlockClass}{alg2evsline}%

```

```

121 \booltrue{LWR@algocf@dopars}%
122 #1
123 \boolfalse{LWR@algocf@dopars}%
124 \end{BlockClass}
125 \booltrue{LWR@algocf@dopars}%
126 }

127 \renewcommand{\algocf@Noline}[1]{%
128 \boolfalse{LWR@algocf@dopars}%
129 \begin{BlockClass}{alg2enoline}
130 \booltrue{LWR@algocf@dopars}%
131 #1
132 \boolfalse{LWR@algocf@dopars}%
133 \end{BlockClass}
134 \booltrue{LWR@algocf@dopars}%
135 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

136 \LetLtxMacro\algocf@Here\algocf
137 \LetLtxMacro\endalgocf@Here\endalgocf

```

### File 18 **lwarf-algorithmicx.sty**

#### § 127 Package **algorithmicx**

*(Emulates or patches code by Szász János.)*

Pkg algorithmicx **algorithmicx** is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the `algorithmic` environment, level indenting is converted to a `<span>` of the required length, and comments are placed inside a `<span>` which is floated right.

⚠ **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 633.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style=\textquotedbl{}%
10 width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11 \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%

```

---

```

15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{ }%
20 \LWR@htmllagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26 \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLunicode{25B7} #1% white right triangle
32 }%

```

---

### File 19 **l warp-alltt.sty**

#### § 128 Package **alltt**

*(Emulates or patches code by JOHANNES BRAAMS.)*

Pkg alltt alltt is patched for use by l warp.

for HTML output 1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

```

2 \AfterEndPreamble{%
3 \LWR@traceinfo{Patching alltt.}%
4
5 \AtBeginEnvironment{alltt}{%
6 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7 {}%
8 {}%
9 \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10 \LWR@atbeginverbatim{alltt}%
11 }%
12 }%
13
14 \AfterEndEnvironment{alltt}{%
15 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
16 {}%
17 {}%

```

Vertical spacing changes if inside a list.

```

18 \LWR@afterendverbatim%

```

---

```

19 }%
20 }
21
22 }
```

---

File 20 **l warp-amscdx.sty**

§ 129 Package **amscdx**

*(Emulates or patches code by MARTIN VERMEER.)*

Pkg amscdx amscdx is used as-is for SVG math.

⚠ **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \renewenvironment{CD}
5 {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6 {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDfattrue}{}}%
10 \CustomizeMathJax{\newcommand{\CDfatfalse}{}}%
11 \CustomizeMathJax{\newcommand{\CDashtrue}{}}%
12 \CustomizeMathJax{\newcommand{\CDashfalse}{}}%
13 \CustomizeMathJax{\newcommand{\CDlorn}{[1]}}%
14 \end{warpMathJax}
```

---

File 21 **l warp-amsmath.sty**

§ 130 Package **amsmath**

*(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, LATEX3 PROJECT.)*

Pkg amsmath amsmath is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso An HTML text-mode version.

```

2 \newcommand*{\LWR@HTML@dotso}{\textellipsis\ }
3 \LWR@formatted{dotso}
```

Patches to allow \eqref inside a caption:

---

```

4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform@#1{\maketag@@@{(\ignorespaces#1\unskip)}}

```

Patches for  $\mathcal{AM}$ S math \tag macro to remember the first tag:

```

6 \ifbool{mathjax}{}{%
7 \LetLtxMacro{\LWR@origmake@df@tag@@}{\make@df@tag@@}
8 \LetLtxMacro{\LWR@origmake@df@tag@@@}{\make@df@tag@@@}
9 \renewcommand*\make@df@tag@@[1]{%
10 \LWR@remembertag{#1}%
11 \LWR@origmake@df@tag@@{#1}%
12 }%
13 \renewcommand*\make@df@tag@@@[1]{%
14 \LWR@remembertag{#1}%
15 \LWR@origmake@df@tag@@@{#1}%
16 }%
17 \renewcommand*\make@df@tag@@[1]{%
18 \LWR@remembertag{#1}%
19 }%
20 }%
21 }% not mathjax

```

For nesting  $\mathcal{AM}$ S environments:

```

22 \newcounter{LWR@amsmathdepth}
23 \setcounter{LWR@amsmathdepth}{0}

```

The following  $\mathcal{AM}$ S environments are patched in-place:

Ctr LWR@maxfields@ A copy of maxfields@ as it was passed. This is used to generate the mandatory argument for alignat and alignat\* when using MATHJAX.

```

24 \newcounter{LWR@maxfields@}
25
26 \xpatchcmd{\start@align}
27 {\maxfields@#3\relax}
28 {%
29 \maxfields@#3\relax%
30 \setcounter{LWR@maxfields@}{#3}%
31 }
32 {}%
33 {\LWR@patcherror{amsmath}{start@align}}

```

\LWR@amsmathenv@@before \* {*environment name*}  
\* if the environment was starred.  
Embeds the environment inside a `latexitimage`.

```

34 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
35 \IfBooleanTF{#1}{%
36 \begin{BlockClass}{displaymath}
37 }{%
38 \begin{BlockClass}{displaymathnumbered}
39 }

```

```

40 \LWR@newautoidanchor%
41 \booltrue{\LWR@indisplaymathimage}%
42 \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*%
43 \LWR@applyxfakebold%
44 }

\LWR@amsmathenv@before * {\langle environment name \rangle}
* if the environment was starred.
Embeds the environment with MATHJAX or a lateximage.

45 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
46 \ifnumequal{\value{\LWR@amsmathdepth}}{0}{%
47 \LWR@stoppars%
48 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
49 {
50 \LWR@syncmathjax
51 \boolfalse{\LWR@amsmultiline}
52 \ifstreq{\#2}{multiline}{\booltrue{\LWR@amsmultiline}}{%
53 \ifstreq{\#2}{multiline*}{\booltrue{\LWR@amsmultiline}}{}%
54 \LWR@beginhideamsmath
55 }
56 {
57 \IfBooleanTF{#1}{%
58 \LWR@amsmathenv@@before*{#2}
59 }{%
60 \LWR@amsmathenv@@before{#2}
61 }
62 }
63 }{%
64 \addtocounter{\LWR@amsmathdepth}{1}
65 }
66 }%
67 \end{lateximage}\end{BlockClass}\LWR@startpars%
68 }

\LWR@amsmathenv@after * {\langle environment name \rangle}
* if the environment was starred. Ignored here, only used for a consistent syntax.
Embeds the environment inside a lateximage.

69 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
70 \ifnumequal{\value{\LWR@amsmathdepth}}{1}{%
71 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }{%
72 {
73 \LWR@endhideamsmath
74 \boolfalse{\LWR@amsmultiline}
75 \LWR@addmathjax{#2}{\the\@envbody}
76 }
77 }%
78 \end{BlockClass}\LWR@startpars%
79 }

\triangleleft autonum's "+" environments are not supported by MATHJAX.
```

```
77 {\LWR@amsmathenv@@after}

Clear the single-use alt text:
78 \gdef\LWR@ThisAltText{}%
79 }{%
80 \addtocounter{\LWR@amsmathdepth}{-1}%
81 }

Env multiline

82 \BeforeBeginEnvironment{multiline}{\LWR@amsmathenv@before{multiline}}%
83
84 \AfterEndEnvironment{multiline}{\LWR@amsmathenv@after{multiline}}%

Env multiline*
85 \BeforeBeginEnvironment{multiline*}{\LWR@amsmathenv@before*{multiline*}}%
86
87 \AfterEndEnvironment{multiline*}{\LWR@amsmathenv@after*{multiline*}}%
88

Env gather

89 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}%
90
91 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}%

Env gather*
92 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}%
93
94 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}%

Env align

95 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}%
96
97 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}%

Env align*
98 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}%
99
100 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}%

Env flalign
101 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}%
102
103 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}
```

```

Env flalign*
104 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
105
106 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}

Env alignat
107 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
108
109 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}

Env alignat*
110 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
111
112 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

113 \AtBeginEnvironment{subequations}{
114 \renewcommand*{\theMathJaxsubequations}{1}
115 \renewcommand*{\theMathJaxsection}{\theparentequation}
116 \renewcommand*{\theMathJaxequation}{\arabic{equation}}
117 }

```

For MATHJAX:

```

118 \begin{warpMathJax}
119 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{\#1}\notag \\}}
120 \CustomizeMathJax{\let\hat\hat}
121 \CustomizeMathJax{\let\check\check}
122 \CustomizeMathJax{\let\tilde\tilde}
123 \CustomizeMathJax{\let\acute\acute}
124 \CustomizeMathJax{\let\grave\grave}
125 \CustomizeMathJax{\let\dot\dot}
126 \CustomizeMathJax{\let\ddot\ddot}
127 \CustomizeMathJax{\let\breve\breve}
128 \CustomizeMathJax{\let\bar\bar}
129 \CustomizeMathJax{\let\vec\vec}
130 \end{warpMathJax}

```

## File 22 l warp-amsthm.sty

### § 131 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP—AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

Pkg amsthm amsthm is patched for use by l warp.

---

Table 19: **amsthm** package—css styling of theorems and proofs

**Theorem:** <div> of class `amsthmbody<theoremstyle>`

**Theorem Name:** <span> of class `amsthmname<theoremstyle>`

**Theorem Number:** <span> of class `amsthmnumber<theoremstyle>`

**Theorem Note:** <span> of class `amsthmnote<theoremstyle>`

**Proof:** <div> of class `amsthmproof`

**Proof Name:** <span> of class `amsthmproofname`

where <theoremstyle> is plain, definition, etc.

---

**for HTML output:** `amsthm` must be loaded before `mdframed`:

```

1 \@ifpackageloaded{mdframed}{
2 \PackageError{l warp}
3 {%
4 Package mdframed must be loaded after package amsthm.\MessageBreak
5 Enter 'H' for solutions%
6 }
7 {%
8 Move ``\protect\usepackage{amsthm}'' before
9 ``\protect\usepackage{mdframed}''.\MessageBreak
10 Package amsthm may be loaded by something else,\MessageBreak
11 which must also be moved before mdframed.%
12 }
13 }
14 {\relax}
```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}

16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]
```

Storage for the style being used for new theorems:

```
17 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19 \@ifundefined{th@#1}{%
20 \PackageWarning{amsthm}{Unknown theoremstyle '#1'}%
21 \thm@style{plain}%
22 \renewcommand{\LWR@newtheoremstyle}{plain}\% l warp
23 }{%
24 \thm@style{#1}%
25 \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
```

```
26 }%
27 }
```

Patched to remember the style for this theorem type:

```
28 \def@\xnthm#1#2{%
29 \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}%
30 \let@\tempa\relax
31 \@xp\@ifdefinable\csname #2\endcsname{%
32 \global\@xp\let\csname end#2\endcsname\@endtheorem
33 \ifx *#1% unnumbered, need to get one more mandatory arg
34 \edef@\tempa##1{%
35 \gdef\@xp\@nx\csname#2\endcsname{%
36 \@nx\@thm{\@xp\@nx\csname th@\the\thm@style\endcsname}%
37 {}##1}}%
38 \else % numbered theorem, need to check for optional arg
39 \def@\tempa{\@oparg{\@ynthm{#2}}[]}%
```

lwarf

```
40 \fi
41 \AtBeginEnvironment{#2}{%
42 \edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#2}}%
43 }%
44 }%
45 \tempa%
46 }
```

Patched to enclose with css:

```
47 \newcommand{\LWR@haveamsthmname}{%
48 \renewcommand{\thmname}[1]{%
49 \InlineClass{amsthmname}\LWR@thisthmstyle}##1}%
50 }
51 }
52
53 \newcommand{\LWR@haveamsthmnumber}{%
54 \renewcommand{\thmnumber}[1]{%
55 \InlineClass{amsthmnumber}\LWR@thisthmstyle}##1}%
56 }
57 }
58
59 \newcommand{\LWR@haveamsthmnote}{%
60 \renewcommand{\thmnote}[1]{%
61 \InlineClass{amsthmnote}\LWR@thisthmstyle}##1}%
62 }
63 }
64
65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote
```

Patched for css:

```
68 \def@\begintheorem#1#2[#3]{%
69 \GetTitleString{#3}%
70 }
```

lwarf

```

70 \let\@currentlabelname\GetTitleStringResult% l warp
71 \item[%]

72 \LWR@newautopagelabel{page}%

73 % \def\@thm#1#2#3{%
74 % \the\thm@headfont \thm@indent
75 % \ifempty{#1}{\let\thmname@gobble}{\LWR@haveamsthmname}%
76 % \ifempty{#2}{\let\thmnumber@gobble}{\LWR@haveamsthmnumber}%
77 % \ifempty{#3}{\let\thmnote@gobble}{\LWR@haveamsthmnote}%
78 % \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
79 % \the\thm@headpunct % space
80 % \thmheadnl % possibly a newline.
81 % \hskip\thm@headsep
82 % }%
83 %]%
84 \ignorespaces}

```

Patched for css:

```

85 \def\@thm#1#2#3{%
86 \ifhmode\unskip\unskip\par\fi
87 \normalfont
88 \LWR@forcenewpage% l warp

89 \LWR@printpendingfootnotes% l warp

90 \BlockClass{amsthmbody}\LWR@thisthmstyle}% l warp
91 \trivlist
92 \let\thmheadnl\relax
93 \let\thm@swap@gobble
94 \thm@notefont{\fontseries\mddefault\upshape}%
95 \thm@headpunct{.}% add period after heading
96 \thm@headsep 5\p@ plus\p@ minus\p@\relax
97 \thm@space@setup
98 #1% style overrides
99 \topsep \thm@preskip % used by thm head
100 \topsepadd \thm@postskip % used by \@endparenv
101 \def@\tempa{#2}\ifx\empty\atempa
102 \def@\tempa{@oparg{@begintheorem{#3}{}[]}%
103 \else
104 \refstepcounter{#2}%
105 \def@\tempa{@oparg{@begintheorem{#3}{\csname the#2\endcsname}[]}%
106 \fi
107 \atempa%
108 }

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. `l warp` then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

109 \AtBeginDocument{%
110 \def\@cref@thmoptarg[#1]#2#3#4{%
111 \ifhmode\unskip\unskip\par\fi%

```

```

112 \normalfont%
113 \LWR@forcenewline% lwrap
114
115 \BlockClass{amsthmbody\LWR@thisthmstyle}{% lwrap
116 \trivlist%
117 \let\thmheadnl\relax%
118 \let\thm@swap\@gobble%
119 \thm@note{\fontseries\mddefault\upshape}%
120 \thm@headpunct{.}% add period after heading
121 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
122 \thm@space@setup%
123 #2% style overrides
124 \@topsep \thm@preskip % used by thm head
125 \@topsepadd \thm@postskip % used by \endparenv
126 \def\@tempa{\#3}\ifx\@empty\@tempa%
127 \def\@tempa{\oparg{\begin{theorem}{}}[]}%
128 \else%
129 \refstepcounter[#1]{#3}%%<< cleveref modification
130 \def\@tempa{\oparg{\begin{theorem}{}}{\csname the#3\endcsname}[]}%
131 \fi%
132 \@tempa
133 }%
134 }% AtBeginDocument
135
136 \def\@endtheorem{%
137 \endtrivlist%
138
139 \LWR@printpendingfootnotes% lwrap
140
141 }

```

Proof QED symbol:

```

142 \AtBeginDocument{
143 @ifundefined{\LWR@orig@openbox}{%
144 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
145 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
146 \LetLtxMacro{\LWR@orig@Box}{\Box}
147
148 \def\openbox{\text{\HTMLunicode{25A1}}}UTF-8 white box
149 \def\blacksquare{\text{\HTMLunicode{220E}}}UTF-8 end-of-proof
150 \def\Box{\text{\HTMLunicode{25A1}}}UTF-8 white box
151
152 \appto{\LWR@restoreorigformatting}{%
153 \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
154 \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
155 \LetLtxMacro{\Box}{\LWR@orig@Box}%
156 }% appto
157 }{}% @ifundefined
158 }% AtBeginDocument

```

Patched to add a <span>:

```

159 \DeclareRobustCommand{\qed}{%
160 \ifmmode \mathqed
161 \else
162 % \leavevmode\unskip\penalty9999 \hbox{}\nobreak\hfill
163 % \quad\hbox{\qedsymbol}%
164 \InlineClass{theoremendmark}{\qedsymbol}%
165 \fi
166 }
```

Patched for css:

```

167 \renewenvironment{proof}[1][\proofname]{\par
168 \LWR@forcenewpage% l warp

169 \LWR@printpendingfootnotes% l warp

170 \BlockClass{amsthmproof}% l warp
171 \LWR@newautopagelabel{page}%
172 \pushQED{\qed}%
173 \normalfont \topsep6\p@\relax
174 \trivlist
175 \item[
176 \InlineClass{amsthmproofname}{\#1\@addpunct{.}}]\ignorespaces% changes
177 }{%
178 \popQED\endtrivlist

179 \LWR@printpendingfootnotes% l warp

180 \endBlockClass% l warp
181 \endeffalse
182 }
```

### File 23 l warp-anonchap.sty

§ 132 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

Pkg anonchap **anonchap** is emulated.

Pkg tocloft If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

The code is shared by tocbibind.

for HTML output: 1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

 **tocloft & other packages**

---

```

2 \newcommand{\simplechapter}[1][\emptyset]{%
3 \def\@chapcntformat##1{%
4 #1\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secntformat%
10 }

```

---

#### File 24 **lwarf-any size.sty**

### § 133 Package **any size**

*(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)*

Pkg **any size** **any size** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{any size}[1994/08/13]

```

2 \def\papersize#1#2{%
3 \def\marginsize#1#2#3#4{%

```

---

#### File 25 **lwarf-appendix.sty**

### § 134 Package **appendix**

*(Emulates or patches code by PETER WILSON.)*

Pkg **appendix** **appendix** is patched for use by **lwarf**.

⚠ **incorrect toc link** During **HTML** conversion, the option **toc** without the option **page** results in a **toc** link to whichever section was before the **appendices** environment. It is recommended to use both **toc** and also **page** at the same time.

**for HTML output:** 1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

```

2 \renewcommand*{\@chap@pppage}{%
3 \part*{\appendixpagename}%
4 \if@dotoc@pp%
5 \addappheadtotoc%
6 \fi%
7 }%
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}%
11 \if@dotoc@pp%
12 \addappheadtotoc%
13 \fi%
14 }

```

---

**File 26 l warp-ar.sty**

§ 135      Package **ar**

(Emulates or patches code by AGOSTINO DE MARCO.)

Pkg ar ar is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ar}[2012/01/23]

Measure and print the width of the supplied glyph.

```
2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of \AR:

```
9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed `\teximage`, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{teximage}*[\AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```
11 \ifmmode\else\csuse{\LWR@orig\LWR@f@series}{\fi}%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{teximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{teximage}*[\AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
```

```

19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}

22 \newrobustcmd*\{\LWR@HTML@ARss}{%
23 \begin{lateximage}*{[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]}%
24 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*\{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*{[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]}%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*\{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*{[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]}%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A}!R}}
43 \CustomizeMathJax{\newcommand{\ARB}{\boldsymbol{A}!R}}
44 \end{warpMathJax}

```

#### File 27 **l warp-arabicfront.sty**

### § 136 Package **arabicfront**

Pkg arabicfront arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

#### File 28 **l warp-array.sty**

### § 137 Package **array**

Pkg array array is used as-is for print output, and emulated for HTML.

plarray and plexarray do not affect \firsthline or \lasthline, and so are not affected by the following.

**for HTML output:** If array is not yet loaded, remove the default nullfied macros:

```

1 \@ifpackageloaded{array}{}{%
2 \let\firstline\relax
3 \let\lastline\relax
4 }
5
6 \LWR@ProvidesPackagePass[array][2018/12/30]

```

Provide simplified column types for HTML:

```

7 \HTMLnewcolumntype{w}[2]{#1}
8 \HTMLnewcolumntype{W}[2]{#1}

```

More HTML versions:

```

9 \newcommand*{\LWR@HTML@firstline}{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firstline}
11
12 \newcommand*{\LWR@HTML@lastline}{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lastline}

14 \let\tabularnewline\\
15 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
16 \LWR@formatted{tabularnewline}

```

For MATHJAX:

```

17 \CustomizeMathJax{
18 \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }

```

### File 29 l warp-arydshln.sty

#### § 138 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg arydshln arydshln heavily patches tabular code, so the actual package is not used. arydshln is emulated for HTML tabular, and reverts to solid rules for SVG math array and tabular in a lateximage.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For MATHJAX, limited emulation is provided for math mode.

**for HTML output:** array is required to allow \newcolumn below.

```
1 \RequirePackage{array}
```

---

2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]

Ignored, but included for source compatibility:

```

3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*{\ADLdrawingmode}[1]{}
16 \newcommand*{\ADLnoshorthanded}{}
17 \newcommand*{\dashgapcolor}[2][]{}
18 \newcommand*{\nodashgapcolor}{}{}
```

In a `\teximage`, revert to solid vertical rules:

```

19 \appto\LWR@restoreorigformatting{%
20 \newcolumntype{:}{|}%
21 \newcolumntype{;}{[1]}{|}%
22 \LetLtxMacro\hline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `\teximage`:

```

24 \def\hline{
25 % \adl@hline\adl@ihline
26 \adl@hline\adl@inactivehdl
27 }
28 \def\adl@hline#1{\noalign{\ifnum0='}\fi
29 % \ifadl@zhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \height \arrayrulewidth% lwarp
33 % \fi
34 \@ifnextchar[%]
35 % {#1}%
36 % {#1[%}
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 %]{}}
40 % \def\adl@ihline[#1/#2]{\ifnum0='}\fi%
41 % \multispan{\adl@columns}\unskip \adl@hcline\z@[#1/#2]%
42 % \noalign{\ifnum0='}\fi
43 % \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
```

```

45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 \hrule\@height\arrayrulewidth
47 \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 \ifx\@tempa\hdashline \adl@ixhline\fi
50 \ifnum0='{\fi}%
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \tempcpta#2
54 % \global\advance\adl@totalheight\@tempcpta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcpta);}%
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcpta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi
62 \@ifnextchar[%]
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{\fi}\cline{#1-#2}}
70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firstdashline}[1][]{\hline}}
72 \CustomizeMathJax{\let\lastdashline\firstdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

File 30 **l warp-asymptote.sty**

§ 139 Package **asymptote**

*(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)*

Pkg **asymptote** **asymptote** is patched for use by **l warp**.

To compile:

```

pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]

```

2 \BeforeBeginEnvironment{asy}{%
3 \begin{lateximage}[-asymptote-\~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8 {\begingroup}
9 {\begin{lateximage}[-asymptote-\~\PackageDiagramAltText]}
10 {}
11 {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14 {\endgroup}
15 {\end{lateximage}}
16 {}
17 {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

### File 31 **l warp-atbegshi.sty**

§ 140 Package **atbegshi**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg atbegshi atbegshi is ignored.

**for HTML output:** Discard all options for l warp-atbegshi:

1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]

```

2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
```

---

```

5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*{\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*{\AtBeginShipoutNext}[1]{}
16 \newcommand*{\AtBeginShipoutFirst}[1]{}
17 \newcommand*{\AtBeginShipoutDiscard}{{}}
18 \newcommand*{\AtBeginShipoutInit}{{}}
19 \newcommand*{\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*{\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*{\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*{\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*{\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}

```

---

### File 32 **lwarf-attachfile.sty**

#### § 141 Package **attachfile**

(Emulates or patches code by SCOTT PAKIN.)

Pkg **attachfile** **attachfile** is patched for use by **lwarf**.

 Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*{\LWR@attachfile@icon}{}
3 {
4 \begin{latentimage} *%
5 [-attachfile-]%
6 [%
7 \detokenize\expandafter{\atfi@icon@icon}-%
8 \detokenize\expandafter{\atfi@color@rgb}%
9]%
10 }
11 {
12 \end{latentimage}
13 }

```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

---

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}{}
```

The displayed output for an \attachfile reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29 \def\LWR@attachfile@appearance{\#1}%
30 }
```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32 \LWR@href{\#1}{\LWR@attachfile@appearance}%
33 }
```

---

### File 33 **l warp-attachfile2.sty**

## § 142 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **attachfile2** **attachfile2** is patched for use by **l warp**.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5 \def\LWR@attachfiletwo@color{\#1}%
6 \HyColor@AttachfileColor{\#1}%
7 \atfi@color@tex\atfi@color@inline\atfi@color@annot
8 {attachfile2}{color}%
9 }
```

Encloses each icon:

```

10 \newenvironment*{\LWR@attachfile@icon}
11 {
12 \begin{lateximage}%
13 [-attachfile-]%
14 [%]
15 \detokenize\expandafter{\atfi@icon@icon}-%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}%
17]%
18 }
19 {
20 \end{lateximage}
21 }
```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}
```

Disable PDF file embedding:

```
33 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}%
35
36 \def\atfi@set@appearance@icon{%
37 \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41 \def\LWR@attachfile@appearance{\#1}%
42 }
```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44 \LWR@href{\#1}{\LWR@attachfile@appearance}%
45 }
```

Modified for text color:

```
46 \DeclareRobustCommand{\notextattachfile}[2][]{%
```

```

47 \begingroup
48 \atfi@setup{\#1}%
49 \ifatfi@print
50 \leavevmode
51 \begingroup
52 \HyColor@UseColor\atfi@color@tex
53 \LWR{textcurrentcolor{\#2}}% lwarp
54 % \strut
55 \endgroup
56 % \else
57 % \sbox{\ltx@zero{\#2\strut}}%
58 % \makebox[\wd0]{}
59 \fi
60 \endgroup
61 }

```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][]{%
63 \begingroup
64 \atfi@setup{\#1}%
65 \atfi@set@appearance@icon
66 \ifatfi@print
67 \LWR{attachfile@appearance}% lwarp
68 % \expandafter
69 % \atfi@refxform\csname atfi@appobj@\atfi@icon@icon\endcsname
70 % \else
71 % \makebox[\atfi@appearancewidth]{}
72 \fi
73 \endgroup
74 }

```

#### File 34 **lwarp-authblk.sty**

### § 143 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg authblk authblk is patched for HTML.

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

**⚠ load order**

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

*(Emulates or patches code by PATRICK W. DALY.)*

**for HTML output:** Require that authblk be loaded before titling:

```

1 \@ifpackageloaded{titling}{%
2 \PackageError{lwarp-authblk}{%
3 {Package authblk must be loaded before titling}}

```

---

```

4 {%
5 Titling appends authblk's author macro,
6 so authblk must be loaded first.%}
7 }
8 }
9 {\relax}
```

Load `authblk`:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro{\LWRAB@affil}{\affil}
12
13 \renewcommand{\affil}[2][]{
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }
```

Create an HTML break for an `\authorcr`:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

---

### File 35 **lwarp-autobreak.sty**

§ 144 Package **autobreak**

*(Emulates or patches code by TAKAHIRO UEDA.)*

Pkg `autobreak` `autobreak` is used as-is for SVG math, and nullified for MATHJAX.

for HTML output: 1 `\LWR@ProvidesPackagePass{autobreak}[2017/02/23]`

For MATHJAX. The modified `align` environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```

2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@\oldstart@align
5 \let\endalign\@autobreak@\oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}{1}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}{1}{}}
10 \end{warpMathJax}
```

---

**File 36 l warp-autonum.sty****§ 145 Package autonum**

Pkg autonum autonum is ignored.

⚠ **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}

20 \newenvironment{flalign+}{\flalign}{\endflalign}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23
24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\align}{\endalign}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{align+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\alignat}{\endalignat}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alignat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
```

```
40
41 \newenvironment{split+}{\split}{\endsplit}
```

---

**File 37 l warp-awesomebox.sty****§ 146 Package awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

Pkg awesomebox awesomebox is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

```
2 \newcommand*\LWR@awesomebox@boxborders{}%
3 \newcommand*\LWR@awesomebox@contentsborders{}%
4
5 \newcommand*\LWR@awesomebox@ruleborders{}%
6 border-top: 1px solid black ;
7 border-bottom: 1px solid black%
8 }
9
10 \% \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} O{} o m m m +m }{%
12 \begin{awesomeblock}{#1}{#2}{#3}{#4}{#5}{#6}
13 #7
14 \end{awesomeblock}
15 }
16
17 \% \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18 \% <contents>
19 \% \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} O{} o m m m }
21 {%
22 \LWR@forceminwidth{#4}%
23 \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24 \renewcommand*\LWR@awesomebox@boxborders{}%
25 \renewcommand*\LWR@awesomebox@contentsborders{}%
26 \ifdefstrelqual{\abShortLine}{#2}{%
27 \renewcommand*\LWR@awesomebox@contentsborders{\LWR@awesomebox@ruleborders}%
28 }{%
29 \ifdefstrelqual{\abLongLine}{#2}{%
30 \renewcommand*\LWR@awesomebox@boxborders{\LWR@awesomebox@ruleborders}%
31 }{%
32 \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%
34 margin-left: 2\% ;
35 vertical-align: top
36]{\minipage}
37 \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%
40 width:75\% ;
41 vertical-align: top ;
```

---

```

42 padding-left: 1em ;
43 \LWR@awesomebox@contentsborders ;
44 border-left: \LWR@printlength{\LWR@atleastonept} %
45 solid \LWR@origpound\LWR@tempcolor%
46]{minipage}
47 \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50 \end{BlockClass}
51 \end{BlockClass}
52 }
```

---

File 38 **l warp-axessibility.sty**

§ 147 Package **axessibility**

Pkg axessibility axessibility is ignored.

**for HTML output:**

```

1 \PackageInfo{l warp}{Using the l warp version of package ‘axessibility’.}%
2 \ProvidesPackage{l warp-axessibility}%
3 no date is declared by the original
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}%
7 \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}%
11 \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17 \RequirePackage{tagpdf}
18 \else
19 \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}
```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{}}
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{}}
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{}}
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{}}
30 \end{warpMathJax}
```

---

**File 39 l warp-axodraw2.sty****§ 148 Package axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

Pkg axodraw2 axodraw2 is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

```
2 \BeforeBeginEnvironment{axopicture}{%
3 \begin{lateximage}[-axopicture-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}
```

---

**File 40 l warp-backnaur.sty****§ 149 Package backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur backnaur is patched for use by l warp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

```
2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnfpn}[1]{\langle \text{\textrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\mid \; ; \mid}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\; ;}}
8 @ifpackagewith{backnaur}{perp}{
9 \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 @ifpackagewith{backnaur}{epsilon} {
12 \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }{
14 \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15 }
16 }
17 @ifpackagewith{backnaur}{tsrm} {
18 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\#1}}}
19 }{
20 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{\#1}}}}}
```

---

```

21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \@ifpackagewith{backnaur}{altpo}{
25 \CustomizeMathJax{\newcommand{\bnfpo}{::=}}
26 }{
27 \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfpn{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfpn{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmorenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmorenn}[1]{\nonumber & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{\nonumber & #1}}
35 \end{warpMathJax}

```

---

**File 41 l warp-backref.sty****§ 150 Package backref***(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

Pkg backref backref is patched for use by l warp.

⚠ loading Note that backref must be explicitly loaded, and is not automatically loaded by hyperref when generating HTML output.

for HTML output: 1 \LWR@ProvidesPackagePass{backref}[2016/05/21]

Force the hyperref option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{%
5 \LWR@refwithsection{#3}%
6 }
7
8 \let\backrefxxx\hyper@section@backref

```

---

**File 42 l warp-balance.sty****§ 151 Package balance***(Emulates or patches code by PATRICK W. DALY.)*

Pkg balance balance is ignored.

for HTML output: Discard all options for l warp-balance:

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

---

```
2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

File 43 **l warp-bbd ing.sty**

§ 152 Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

Pkg bbd ing bbd ing is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLunicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000}} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001}} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002}} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003}} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004}} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005}} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006}} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007}} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010}} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011}} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012}} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013}} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014}} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015}} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016}} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017}} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020}} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021}} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022}} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023}} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024}} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025}} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026}} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027}} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}} {2717}}
```

```
42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}} {2719}}
43 \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}} {271A}}
44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}} {271C}}
45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}} {271B}}
46 \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}} {271D}}
47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}} {271E}}
48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}} {271F}}
49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}} {271F}}
50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}} {2720}}
51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}} {2721}}
52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}} {2721}}
53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}} {2722}}
54 \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}} {2723}}
55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}} {2724}}
56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}} {2725}}
57 \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}} {2726}}
58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}} {2727}}
59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}} {2729}}
60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}} {2605}}
61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}} {2729}}
62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}} {272A}}
63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}} {272B}}
64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}} {272C}}
65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}} {272D}}
66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}} {272E}}
67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}} {272F}}
68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}} {2730}}
69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}} {2731}}
70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}} {2732}}
71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}} {273B}}
72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}} {273C}}
73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}} {2733}}
74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}} {2735}}
75 \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}} {2736}}
76 \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}} {2737}}
77 \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}} {2738}}
78 \newcommand{\LWR@HTML@TwelweStar}{\LWR@bbdingsymbol{112}} {2739}}
79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}} {273A}}
80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}} {273B}}
81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}} {273C}}
82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}} {273D}}
83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}} {273E}}
84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}} {273F}}
85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}} {2740}}
86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}} {2740}}
87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}} {2741}}
88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}} {2742}}
89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}} {2743}}
90 \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}} {273F}}
91 \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}} {273F}}
92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}} {2749}}
93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}} {274A}}
94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}} {274B}}
95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} {2740}}
96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}} {2748}}
```

```
97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bdingssymbol{135}} {2747}}
98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bdingssymbol{136}} {2744}}
99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bdingssymbol{137}} {2746}}
100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bdingssymbol{140}} {2744}}
101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bdingssymbol{141}} {25CF}}
102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bdingssymbol{142}} {274D}}
103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bdingssymbol{143}} {25CF}}
104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bdingssymbol{144}} {274D}}
105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bdingssymbol{145}} {274D}}
106 \newcommand{\LWR@HTML@Square}{\LWR@bdingssymbol{146}} {25A1}}
107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bdingssymbol{147}} {25A0}}
108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bdingssymbol{150}} {2751}}
109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bdingssymbol{151}} {2752}}
110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bdingssymbol{152}} {2752}}
111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bdingssymbol{153}} {2751}}
112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bdingssymbol{154}} {2752}}
113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bdingssymbol{155}} {2752}}
114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bdingssymbol{156}} {25B2}}
115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bdingssymbol{157}} {25BC}}
116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bdingssymbol{160}} {25C6}}
117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bdingssymbol{161}} {2756}}
118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bdingssymbol{162}} {25D7}}
119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bdingssymbol{163}} {25D6}}
120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bdingssymbol{164}} {2758}}
121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bdingssymbol{165}} {2759}}
122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bdingssymbol{166}} {275A}}
123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bdingssymbol{167}} {27A0}}
124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bdingssymbol{170}} {27A6}}
125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bdingssymbol{171}} {27A5}}
126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bdingssymbol{172}} {27A7}}
127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bdingssymbol{173}} {27B2}}
128
129
130 \LWR@formatted{ScissorRightBrokenBottom}
131 \LWR@formatted{ScissorRight}
132 \LWR@formatted{ScissorRightBrokenTop}
133 \LWR@formatted{ScissorLeftBrokenBottom}
134 \LWR@formatted{ScissorLeft}
135 \LWR@formatted{ScissorLeftBrokenTop}
136 \LWR@formatted{ScissorHollowRight}
137 \LWR@formatted{ScissorHollowLeft}
138 \LWR@formatted{Phone}
139 \LWR@formatted{PhoneHandset}
140 \LWR@formatted{Tape}
141 \LWR@formatted{Plane}
142 \LWR@formatted{Envelope}
143 \LWR@formatted{HandCuffRight}
144 \LWR@formatted{HandCuffLeft}
145 \LWR@formatted{HandCuffRightUp}
146 \LWR@formatted{HandCuffLeftUp}
147 \LWR@formatted{HandRight}
148 \LWR@formatted{HandLeft}
149 \LWR@formatted{HandRightUp}
150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
```

```
152 \LWR@formatted{HandPencilLeft}
153 \LWR@formatted{PencilRight}
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossClowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
190 \LWR@formatted{FiveStarOpenDotted}
191 \LWR@formatted{FiveStarOutline}
192 \LWR@formatted{FiveStarOutlineHeavy}
193 \LWR@formatted{FiveStarConvex}
194 \LWR@formatted{FiveStarShadow}
195 \LWR@formatted{AsteriskBold}
196 \LWR@formatted{AsteriskCenterOpen}
197 \LWR@formatted{AsteriskThin}
198 \LWR@formatted{AsteriskThinCenterOpen}
199 \LWR@formatted{EightStarTaper}
200 \LWR@formatted{EightStarConvex}
201 \LWR@formatted{SixStar}
202 \LWR@formatted{EightStar}
203 \LWR@formatted{EightStarBold}
204 \LWR@formatted{TwelweStar}
205 \LWR@formatted{SixteenStarLight}
206 \LWR@formatted{SixFlowerPetalRemoved}
```

```
207 \LWR@formatted{SixFlowerOpenCenter}
208 \LWR@formatted{Asterisk}
209 \LWR@formatted{SixFlowerAlternate}
210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourClowerOpen}
217 \LWR@formatted{FourClowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}
```

---

File 44 **lwarp-beamerarticle.sty**

§ 153 Package **beamerarticle**

(Emulates or patches code by TILL TANTAU, VEDRAN MILETIĆ, LOUIS STUART, JOSEPH WRIGHT.)

Pkg beamerarticle beamerarticle is patched for use by lwarp.

```
for HTML output: 1 \LWR@ProvidesPackagePass{beamerarticle}[2021/05/26]

2 \renewcommand<>{\textcolor}{\only#1{\beameroriginal{\textcolor}}}
3
4 \AtBeginDocument{
5
6 \renewcommand<>{\LWR@listitem}{%
7 \only#1{%
8 \beameroriginal{\LWR@listitem}%
9 }%
10 }
11
12 \renewcommand<>{\LWR@itemizeitem}{%
13 \only#1{%
14 \beameroriginal{\LWR@itemizeitem}%
15 }%
16 }
17
18 \renewcommand<>{\LWR@descitem}{%
19 \only#1{%
20 \beameroriginal{\LWR@descitem}%
21 }%
22 }
23
24 \renewcommand<>{\abstract}{%
25 \only#1{%
26 \beameroriginal{\abstract}%
27 }%
28 }
29
30 \renewcommand<>{\LWR@includegraphicsb}{%
31 \only#1{%
32 \beameroriginal{\LWR@includegraphicsb}%
33 }%
34 }
35
36 \xpretocmd\frame{
37 {
38 \LWR@forcenewpage
39 \BlockClass{beamerframe}%
40 }
41 {}
42 {\LWR@patcherror{beamerarticle}{frame}}
43
44 \xapptocmd\beamer@endframe{
45 {\endBlockClass}
46 {}
47 {\LWR@patcherror{beamerarticle}{beamer@endframe}}
48
49 % An example in the beamer docs for \cs{includegraphics}
50 % shows the use of \cs{llap} in a frame.
51 \xpretocmd\beamer@article@startframe{
52 {\LWR@nulllistfills}
```

```
53 {}
54 {\LWR@patcherror{beamerarticle}{beamer@article@startframe}}
55
56 }% AtBeginDocument
57
58 \let\beamer@tmpop@frametitle@default\relax
59 \defbeamertemplate<article>*{frametitle}{default}{%
60 \paragraph*{\insertframetitle}\ \par%
61 \ifdefempty{\insertframesubtitle}{}{%
62 \noindent\emph{\insertframesubtitle}\par%
63 }%
64 }
65
66
67 \NewDocumentCommand{\LWR@beamer@itemize}{o}{%
68 \LWR@itemizestart\LWR@origitemize%
69 }%
70 \NewDocumentCommand{\LWR@beamer@description}{o o}{%
71 \LWR@descriptionstart\LWR@origdescription%
72 }%
73
74 \xapptocmd{\LWR@patchlists}
75 {%
76 \LetLtxMacro{\itemize}{\LWR@beamer@itemize}%
77 \LetLtxMacro{\description}{\LWR@beamer@description}%
78 }
79 {}
80 {\LWR@patcherror{beamerarticle}{\LWR@patchlists}}
81
82
83 \LetLtxMacro{\maketitle}{\LWR@maketitle}
84
85 \renewcommand{\subtitle}[2][]{
86 \gdef\@subtitle{#2}
87 \def\insertsubtitle{#2}
88 }
89
90 \xpatchcmd{\@maketitle}
91 {%
92 \LWR@htmltag{\LWR@tagtitleend}%
93 \LWR@startpars%
94 }%
95 {%
96 \LWR@htmltag{\LWR@tagtitleend}%
97 \ifvoid{\@subtitle}{}{%
98 \begin{BlockClass}{subtitle}%
99 \@subtitle%
100 \end{BlockClass}%
101 }%
102 \LWR@startpars%
103 }%
104 {}
105 {\LWR@patcherror{beamerarticle}{\@maketitle}}
106
107 \RequirePackage{fancyvrb}
```

---

```
108 \DefineVerbatimEnvironment{semiverbatim}{Verbatim}{commandchars=\\\{\}}
```

---

File 45 **l warp-biblatex.sty**

§ 154 Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

Pkg biblatex When **biblatex** is used, modifications from **newfloat** may have to be undone.

for HTML output:

1. **l warp** uses **newfloat**.
2. For classes with chapters which **newfloat** does not know about, such as CTEX-related classes, **newfloat** may modify **\addtocontents**.
3. **biblatex**, though, wants to patch **\addtocontents**, which causes an error if **\addtocontents** has been changed.
4. Therefore, **\addtocontents** is restored to its original here, since **biblatex** is about to be loaded.
5. This means that the **newfloat**'s **chapterlistsgaps** option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}{
2 \let\addtocontents\newfloat@addtocontents@ORI
3 }{}
```

**hyperref** emulation is loaded **\AtBeginDocument** to avoid an options clash.

```
4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use **hyperref** is recreated here, because **hyperref** is emulated.

```
7 \AfterPreamble{
8
9 \let\blx@anchors@\empty
10 \protected\def\blx@anchor{%
11 \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
12 {}
13 {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14 \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}%
15 }
16 \protected\def\blx@imc@bibhyperref{%
17 \@ifnextchar[%]
18 {\blx@bibhyperref}
19 {\blx@bibhyperref[\abx@field@entrykey]}%
20 }
21 \long\def\blx@bibhyperref[#1]#2{%
22 % \blx@sfsave
```

```

23 \hyperlink{cite.\the\c@refsection}{%
24 % \blx@sfrst
25 #2%
26 % \blx@sfsave
27 }%
28 % \blx@sfrst%
29 }%% \def\blx@nohyperref[#1]{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 % \blx@sfsave
33 \hyperlink{cite.\the\c@refsection:#1}{%
34 % \blx@sfrst
35 #2%
36 % \blx@sfsave
37 }%
38 % \blx@sfrst%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 % \blx@sfsave%
43 \hypertarget{cite.\the\c@refsection:#1}{%
44 % \blx@sfrst
45 #2%
46 % \blx@sfsave%
47 }%
48 % \blx@sfrst%
49 }
50
51 \let\blx@ifhyperref\@firstoftwo

```

Ensure that an autopage reference is current where each \cite is used, although this is nullified inside footnotes since they now use a L<sup>A</sup>T<sub>E</sub>X box.

```

52 \xpretocmd{\blx@citecmdinit}
53 {\LWR@newautopagelabel{page}}%
54 {}
55 {\LWR@patcherror{biblatex}{\blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceded the footnotes.

```

56 \xpatchcmd{\blx@addbackref@i}
57 {\thepage}
58 {\the\LWR@previousautopagelabel}% ref to the most recent object
59 {}
60 {\LWR@patcherror{biblatex}{\blx@addbackref@i A}}
61
62 \xpatchcmd{\blx@addbackref@i}
63 {\c@page}
64 {\c@LWR@previousautopagelabel}% ref to the most recent object
65 {}
66 {\LWR@patcherror{biblatex}{\blx@addbackref@i B}}

```

The following patches are for back page references.

```
67 \DeclareListFormat{pageref}{%
68 \ifnumless{\abx@pagerefstyle}{0}%
69 {\usebibmacro{list:plain}%
70 \ifhyperref
71 {%
72 % \hyperlink{page.\#1}{\#1}%
73 \LWR@refwithsection{\BaseJobname-autopage-\#1}%
74 }
75 {\#1}%
76 \ifnumequal{\value{listcount}}{1}%
77 {\usebibmacro{pageref:init}%
78 }%
79 \usebibmacro{pageref:comp}{\#1}%
80 \ifnumequal{\value{listcount}}{\value{liststop}}%
81 {\usebibmacro{pageref:dump}%
82 }%
83 }%
84 \renewbibmacro*{pageref:comp}[1]{%
85 \numdef\abx@range@prev{\abx@range@prev+1}%
86 \ifinteger{\#1}%
87 {\def\abx@range@num{\#1}%
88 \def\abx@range@this{1}%
89 \ifnumequal{\abx@range@this}{\abx@range@last}%
90 {}
91 {\def\abx@range@prev{-1}}%
92 \ifrmnum{\#1}%
93 {\numdef\abx@range@num{\rmnтонум{\#1}}%
94 \def\abx@range@this{2}%
95 \ifnumequal{\abx@range@this}{\abx@range@last}%
96 {}
97 {\def\abx@range@prev{-1}}%
98 \undef\abx@range@num%
99 \def\abx@range@this{0}%
100 \def\abx@range@prev{-1}}%
101 \ifdef\abx@range@num%
102 {\ifnumequal{\abx@range@num}{\abx@range@prev}%
103 {\def\abx@range@hold{\#1}%
104 \numdef\abx@range@diff{\abx@range@diff+1}%
105 \usebibmacro{pageref:dump}%
106 \ifnumgreater{\abx@range@last}{-1}%
107 {\printdelim{multilistdelim}}%
108 {}%
109 \ifhyperref
110 {\hyperlink{page.\#1}{\#1}%
111 \LWR@refwithsection{\BaseJobname-autopage-\#1}%
112 \#1}%
113 \edef\abx@range@prev{\abx@range@num}%
114 \usebibmacro{pageref:dump}%
115 \ifnumgreater{\abx@range@last}{-1}%
116 {\printdelim{multilistdelim}}%
117 {}%
118 \ifhyperref
119 {\hyperlink{page.\#1}{\#1}}}
```

```
120 {\LWR@refwithsection{\BaseJobname-autopage-\#1}}% l warp
121 {\#1}%
122 \def\abx@range@prev{-1}%
123 \edef\abx@range@last{\abx@range@this}%
124
125 \renewbibmacro*{pageref}{%
126 \ifnumgreater{\abx@range@diff}{0}
127 {\ifcase\abx@pagerefstyle\relax % two
128 \bibrangedash
129 \ifhyperref
130 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
131 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
132 {\abx@range@hold}%
133 \or % three
134 \ifnumless{\abx@range@diff}{2}
135 {\printdelim{multilistdelim}}
136 {\bibrangedash}%
137 \ifhyperref
138 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
139 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
140 {\abx@range@hold}%
141 \or % two+
142 \ifnumless{\abx@range@diff}{2}
143 {\sqspace
144 \ifhyperref
145 {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
146 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
147 {\bibstring{sequens}}%
148 \bibrangedash
149 \ifhyperref
150 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
151 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
152 {\abx@range@hold}%
153 \or % three+
154 \ifnumless{\abx@range@diff}{2}
155 {\sqspace
156 \ifhyperref
157 {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
158 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
159 {\bibstring{sequens}}%
160 \ifnumless{\abx@range@diff}{3}
161 {\sqspace
162 \ifhyperref
163 {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
164 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
165 {\bibstring{sequentes}}%
166 \bibrangedash
167 \ifhyperref
168 {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
169 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
170 {\abx@range@hold}%
171 \else % all+
172 \ifnumless{\abx@range@diff}{2}
173 {\sqspace
174 \ifhyperref
```

---

```

175 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
176 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
177 {\bibstring{sequens}}}
178 {\sqspace
179 \ifhyperref
180 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
181 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% l warp
182 {\bibstring{sequentes}}}}%
183 \fi
184 \def\abx@range@diff{0}
185 {}
186
187 }% \AfterPreamble

```

---

#### File 46 **l warp-bibunits.sty**

### § 155 Package **bibunits**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg **bibunits** **bibunits** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]  
2 \def\bu@bibdata{\BaseJobname}

---

#### File 47 **l warp-bigdelim.sty**

### § 156 Package **bigdelim**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg **bigdelim** **bigdelim** is used as-is for print or **lateximage**, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the **\multirow** which indicates the actual height of the delimiter. The delimiter character is given a **<span>** class of **ldelim** or **rdelim**, and the default CSS sets this to **font-size:200%**

⚠ use **\mrowcell** **\ldelim** and **\rdelim** use **\multirow**, so **\mrowcell** must be used in the proper number of empty cells in the same column below **\ldelim** or **\rdelim**, but not in cells which are above or below the delimiter:

---

```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{3}{.25in}[left] & c & d \\
\mrowcell{e & f} \\
\mrowcell{g & h} \\
<empty> & i & j \\
\end{tabular}
```

---

|        |                                                                                                                                            |        |        |        |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|
| <->    | a    b                                                                                                                                     |        |        |        |
| left { | <table style="margin-left: auto; margin-right: auto;"> <tr><td>c    d</td></tr> <tr><td>e    f</td></tr> <tr><td>g    h</td></tr> </table> | c    d | e    f | g    h |
| c    d |                                                                                                                                            |        |        |        |
| e    f |                                                                                                                                            |        |        |        |
| g    h |                                                                                                                                            |        |        |        |
| <->    | i    j                                                                                                                                     |        |        |        |

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

**for HTML output:**

First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```
1 \let\ldelim\relax
2 \let\rdelim\relax
```

Next, load the package's new definitions:

```
3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]
```

```
\ldelim {\{1:delimiter\}} {\{2:#rows\}} [\{3: vmove\}] {\{4:width\}} [\{5:text\}]
\rdelim
4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{ldelim}{#1}}%
7 }%
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}%
14 }%
15
16 \LWR@formatted{rdelim}
```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```
17 \begin{warpMathJax}
18 % \ldelim ({n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}{[1][]\text{#1}\sim\LWRbigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRldelime}{[2][]\LWRldelimtwo}}
21 \CustomizeMathJax{\def\ldelim{\def\ldelim{\LWRbigdelim{#1}\LWRldelime}}}
```

---

```

22 \% \rdelim) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][]{\LWRbigdelim~\text{#1}}}
24 \CustomizeMathJax{\newcommand{\LWRrdelimone}[2][]{\LWRrdelimtwo}}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\LWRbigdelim{#1}\LWRrdelimone}}
26 \end{warpMathJax}
```

---

File 48 **l warp-bigfoot.sty**

§ 157 Package **bigfoot**

Pkg **bigfoot** **bigfoot** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}
```

---

File 49 **l warp-bigstrut.sty**

§ 158 Package **bigstrut**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg **bigstrut** **bigstrut** is used as-is for print or `lateximage`, and patched for `HTML`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9
```

```
10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][]{}}
12 \end{warpMathJax}
```

---

**File 50 l warp-bitpattern.sty****§ 159 Package bitpattern**

(Emulates or patches code by JEAN-MARC BOURGUET.)

Pkg bitpattern bitpattern is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```
2 \xpatchcmd{\bitpattern}
3 {\begingroup}
4 {\begin{lateximage}[-bitpattern-\~\PackageDiagramAltText]}
5 {}
6 {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9 {\endgroup}
10 {\end{lateximage}}
11 {}
12 {\LWR@patcherror{bitpattern}{bp@Done}}
```

---

**File 51 l warp-blowup.sty****§ 160 Package blowup**

Pkg blowup blowup is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

```
2 \newcommand*\blowUp[1]{}

```

**File 52 l warp-bm.sty****§ 161 Package bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

Pkg bm bm is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

---

\DeclareBoldMathCommand must only be used in the preamble, since it adds to the MATHJAX setup code.

```

2 \begin{warpMathJax}
3 \LetLtxMacro{\LWR@orig}{\DeclareBoldMathCommand\DeclareBoldMathCommand}
4
5 \renewcommand{\DeclareBoldMathCommand}[3][bold]{%
6 \LWR@orig{\DeclareBoldMathCommand[#1]{#2}{#3}}%
7 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}%
8 }
9
10 \onlypreamble{\DeclareBoldMathCommand}
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}
```

---

### File 53 **l warp-booklet.sty**

#### § 162 Package **booklet**

(Emulates or patches code by PETER WILSON.)

Pkg booklet **booklet** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

```

2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifuselandscape \uselandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*{\pagespersignature}[1]{}
9 \def\magstepminus#1{}
10 \newcommand*{\target}[3]{}
11 \newcommand*{\source}[3]{}
12 \newcommand*{\setpdftargetpages}{}%
13 \newcommand*{\setdvipstargetpages}{}%
14 \newcommand*{\targettopbottom}{}%
15 \newcommand*{\twoupemptypage}{}%
16 \newcommand*{\twoupclearpage}{}%
17 \newcommand*{\checkforlandscape}{}%
```

---

### File 54 **l warp-bookmark.sty**

#### § 163 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg bookmark **bookmark** is ignored.

**for HTML output:** Discard all options for l warp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*\{\bookmarksetup}[1]{}
3 \newcommand*\{\bookmarksetupnext}[1]{}
4 \newcommand*\{\bookmark}[2][]{}
5 \newcommand*\{\bookmarkdefinestyle}[2]{}
6 \newcommand*\{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}
```

---

### File 55 **l warp-booktabs.sty**

## § 164 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

Pkg booktabs booktabs is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

⚠ **\cmidrule** For MATHJAX, emulation is provided in math mode, but `\cmidrule` trim must not be used.

**for HTML output:** If booktabs has already been loaded before l warp, such as by memoir, use it as-is. If not, the l warp core will have placed some dummy macros which should be removed before loading the actual booktabs definitions.

```

1 \@ifpackageloaded{booktabs}{}{
2 \LetLtxMacro\toprule\relax
3 \LetLtxMacro\midrule\relax
4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }
```

Next, load the booktabs package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if xltabular is loaded:

```

11 % \def\LWR@HTML@@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro\@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}{%
16 {%
17 \IfValueTF{#1}{%
18 {\LWR@docmidrule[#1]({1-\arabic{LWR@tabletotalTeXcols}})}%
```

```
19 {%
20 \ifbool{FormatWP}%
21 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%%
22 {\booltrue{LWR@doingtbrule}}%
23 }%
24 \LWR@getmynexttoken%
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}{%
29 {%
30 \IfValueTF{#1}{%
31 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%%
32 {%
33 \ifbool{FormatWP}%
34 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%%
35 {\defaddtocounter{LWR@hlines}{1}}%
36 }%
37 \LWR@getmynexttoken%
38 }%
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42 \LWR@docmidrule[#1](#2){#3}%
43 \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49 \IfValueTF{#1}{%
50 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%%
51 {%
52 \ifbool{FormatWP}%
53 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%%
54 {\booltrue{LWR@doingtbrule}}%
55 }%
56 \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}{%
70 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}
```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][]{\hline}}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparens{#1}#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrule}{[1]{}}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][]{\%
80 \ifnextchar{\LWRbooktabscmidruleparens}{\LWRbooktabscmidrule}{\%
81 }{}}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][]{\%}}
85 \end{warpMathJax}
```

---

#### File 56 **l warp-bophook.sty**

### § 165 Package **bophook**

Pkg bophook **bophook** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

2 \newcommand*{\AtBeginPage}[1]{}
3 \newcommand*{\PageLayout}[1]{}
```

---

#### File 57 **l warp-bounddvi.sty**

### § 166 Package **bounddvi**

Pkg bounddvi **bounddvi** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]
```

---

#### File 58 **l warp-boxedminipage.sty**

### § 167 Package **boxedminipage**

(Emulates or patches code by SCOTT PAKIN.)

Pkg boxedminipage **boxedminipage** is emulated for HTML, and used as-is for lateximages.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]
```

```
2 \newenvironment{LWR@HTML@boxedminipage}{%
3 \LWR@stoppars%
4 \begin{BlockClass}{framebox}%
5 \minipage{%
6 }%
7 {%
8 \endminipage%
9 \end{BlockClass}%
10 \LWR@startpars%
11 }%
12 \LWR@formattedenv{boxedminipage}
```

---

**File 59 l warp-boxedminipage2e.sty****§ 168 Package boxedminipage2e**

(Emulates or patches code by SCOTT PAKIN.)

Pkg **boxedminipage2e** **boxedminipage2e** has been renamed **boxedminipage** by the author.

**for HTML output:** Automatically loads **boxedminipage**:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}
```

---

**File 60 l warp-braket.sty****§ 169 Package braket**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **braket** **braket** works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```
2 \begin{warpMathJax}%
3 \CustomizeMathJax{\require{braket}}%
4 \end{warpMathJax}
```

---

**File 61 l warp-breakurl.sty****§ 170 Package breakurl**

(Emulates or patches code by VILAR CAMARA NETO.)

Pkg **breakurl** **breakurl** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

---

```

2 \LetLtxMacro\burl\LWR@url
3
4 \NewDocumentCommand{\LWR@burlaltb}{O{} +m m}{%
5 \LWR@ensuredoingapar%
6 \LWR@subhyperref{#2}%
7 \LWR@subhyperreftext{#3}%
8 \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*\burlalt{%
12 \begingroup%
13 \LWR@linkcatcodes%
14 \LWR@burlaltb%
15 }
16
17 \LetLtxMacro\urlalt\burlalt

```

---

### File 62 **l warp-breqn.sty**

§ 171      Package **breqn**

*(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHLUND.)*

Pkg **breqn** **breqn** is patched for use by **l warp**.

 **darray** **darray** is not supported, and in fact does not work in the print version either.

While using **MATHJAX**, **breqn** objects are converted to **SVG** images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

```

2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8 \begin{BlockClass}{displaymathnumbered}
9 \LWR@newautoidanchor%
10 \booltrue{\LWR@indisplaymathimage}%
11 \begin{lateximage}[-breqn dmath- \MathImageAltText]
12 }
13
14 \AfterEndEnvironment{dmath}{
15 \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*} {
19 \begin{BlockClass}{displaymath}
20 \LWR@newautoidanchor%
21 \booltrue{\LWR@indisplaymathimage}%
22 \begin{lateximage}[-breqn dmath*- \MathImageAltText]
23 }

```

```
24
25 \AfterEndEnvironment{dmath*}{
26 \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%
32 \booltrue{\LWR@indisplaymathimage}%
33 \begin{lateximage}[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}{
37 \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{\LWR@indisplaymathimage}%
44 \begin{lateximage}[-breqn dseries*- \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{
48 \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{\LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{\LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*- \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }
```

---

**File 63 l warp-bsheaders.sty****§ 172 Package bsheaders**

Pkg bsheaders bsheaders is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---

**File 64 l warp-bussproofs.sty****§ 173 Package bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

Pkg bussproofs bussproofs is used as-is for HTML, and emulated by MATHJAX's extension.

**⚠ \DisplayProof** If not using MATHJAX, inline proofs with \DisplayMath must be placed inside a math expression.

If using MATHJAX, only the prooftree environment may be used, not \DisplayProof.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs} no date in file

```
2 \ifbool{mathjax}{%
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{\LWR@HTML@prooftree}{%
6 {\LWR@doequation{\BODY}{prooftree}}%
7 [\LWR@doendequation{prooftree}]
8 \LWR@formattedenv{prooftree}
9 }{%
10 \BeforeBeginEnvironment{prooftree}{%
11 \begin{lateximage}[-bussproofs-\PackageDiagramAltText]%
12 }%
13 \AfterEndEnvironment{prooftree}{\end{lateximage}}
14 }
```

---

**File 65 l warp-bxpapersize.sty****§ 174 Package bxpapersize**

Pkg bxpapersize bxpapersize is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

---

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

---

File 66 **l warp-bytefield.sty**

§ 175 Package **bytefield**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg bytefield bytefield is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

```
2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{lateximage}[-bytefield-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

---

File 67 **l warp-cancel.sty**

§ 176 Package **cancel**

Pkg cancel cancel is used as-is for SVG math, and emulated for HTML text output.

for HTML output: 1 \LWR@origRequirePackage{l warp-xcolor}%
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

\cancelto is math-only, so is used as-is.

```
3 \LetLtxMacro{\LWR@origcancel}{\cancel}
4 \LetLtxMacro{\LWR@origbcancel}{\bcancel}
5 \LetLtxMacro{\LWR@origxcancel}{\xcancel}
6
7 \appto{\LWR@restoreorigformatting}{%
8 \LetLtxMacro{\cancel}{\LWR@origcancel}%
9 \LetLtxMacro{\bcancel}{\LWR@origbcancel}%
10 \LetLtxMacro{\xcancel}{\LWR@origxcancel}%
11 }
```

\LWR@cancelcolor {\text} {\color} {\class} {\colorstyle} {FormatWPstyle}

Add colors if not empty:

```
12 \newcommand{\LWR@cancelcolor}[5]{%
13 \ifcsempty{#2}%
14 {\InlineClass{#5}{#3}{#1}}%
15 {\LWR@htmlspanclass[#5:#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
16 }
```

```

\cancel {⟨text⟩}

17 \DeclareRobustCommand{\cancel}[1]{%
18 \begingroup%
19 \CancelColor{%
20 \LWR@findcurrenttextcolor{%
21 \color{black}}{%
22 \LWR@cancelcolor{#1}{\LWR@tempcolor}{sout}{text-decoration-color}}{%
23 {text-decoration:line-through}}{%
24 \endgroup%
25 }%
26 %
27 \LetLtxMacro{\bcancel}{\cancel}%
28 \LetLtxMacro{\xcancel}{\cancel}

```

For MATHJAX:

```

29 \begin{warpMathJax}%
30 \PackageWarningNoLine{l warp, cancel}{The MathJax v3 extension will be used}%
31 \CustomizeMathJax{\require{cancel}}%
32 \end{warpMathJax}

```

#### File 68 **l warp-canoniclayout.sty**

### § 177 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

**for HTML output:** s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}%
3 \newcommand*{\charactersperpage}{}%

```

#### File 69 **l warp-caption.sty**

### § 178 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption caption is patched for use by l warp.

**for HTML output:**

```

1 \typeout{---}%
2 \typeout{Packages l warp and caption:}%
3 \typeout{If a ‘‘Missing \protect\begin\protect{document}\protect’’ error occurs here,}%
4 \typeout{try using: \space \protect\usepackage\protect{caption}\protect}\space\%%
5 \protect\captionsetup{options}}%
6 \typeout{instead of: \protect\usepackage[options]\protect{caption}\protect}.}%
7 \typeout{---}%
8 %
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

```

```
10 \long\def\caption@iibox@#1#2#3#4{%
11 % \setbox\@tempboxa\hbox{#4}%
12 \caption@iibox{#1}{#2}{#3}%
13 % [\wd\@tempboxa]%
14 % []% lwarp
15 % [\captionbox@hj@default]%
16 % {\unhbox\@tempboxa}%
17 % {#4}%% lwarp
18 }

19 \long\def\caption@iiibox#1#2#3#4#5[#6][#7]{%
20 \begingroup
21 #1% set \caption@position
22 \caption@iftop{%
23 \endgroup

24 \minipagefullwidth% lwarp
25 \parbox[t]{\linewidth}{%
26 #1\relax
27 \caption@setposition t%
28 % #2%
29 % {\caption#4{#5}}%
30 % \captionbox@hrule
31 % \csname caption@hj@#7\endcsname
32 % #8%
33 }%
34 }{%
35 \endgroup

36 % \parbox[b]{#6}{%
37 \minipagefullwidth% lwarp
38 \parbox[b]{\linewidth}{% lwarp
39 #1\relax
40 \caption@setposition b%
41 % \csname caption@hj@#7\endcsname
42 % #8%
43 % \captionbox@hrule
44 % #3%
45 % {\caption#4{#5}}%
46 }%
47 }%
48 }

\caption@makecaption

49 \long\def\caption@makecaption#1#2{%
50 % \caption@make@above
51 \caption@@make{#1}{#2}%
52 % \caption@make@below
53 }
54
55 \AtBeginDocument{
56 \let\@makecaption\caption@makecaption
57 }
```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{\@xfloat}
60 {\LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment}
61 {}
62 {\LWR@patcherror{caption}{\@xfloat}}
63
64 \xapptocmd{\@dblfloat}
65 {\LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment}
66 {}
67 {\LWR@patcherror{caption}{\@dblfloat}}
68 }
```

Updates for late patches for scrextend:

```

69 \caption@AtBeginDocument{
70 \@ifpackageloaded{l warp-scrextend} {
71 \LetLtxMacro{\captionbelow}{\caption}
72 \LetLtxMacro{\captionabove}{\caption}
73 \LetLtxMacro{\captionofbelow}{\captionof}
74 \LetLtxMacro{\captionofabove}{\captionof}
75 }{}}
76 }
```

## File 70 l warp-caption3.sty

§ 179 Package **caption3**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption3 **caption3** is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass[caption3][2020/10/21]

```

\caption@@@make {\langle caption label\rangle} {\langle caption text\rangle}
2 \@ifpackagelater{caption3}[2020/08/23]{
3 \renewcommand{\caption@@@make}[2]{%
4 \LWR@traceinfo{\caption@@@make}%
5 \LWR@stoppars% l warp
6 % \sbox{\tempboxa}{#1}%
7 % \ifdim\wd\tempboxa=\z@
8 % \caption@set{labelseparator}{none}%
9 % \fi
10 \caption@ifempty{#2}{%
11 \caption@set{labelseparator}{none}%
12 \caption@set{textformat}{simple}%
13 }%
14 \caption@labelseparator % defines \caption@iflabelfont,
```

```
15 % \caption@labelsep and \caption@labelsep@name
16 % (the latter is needed by \caption@fmt)
17 %

18 % \@setpar{\@@par\caption@@par}\caption@@par
19 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

20 % \caption@fmt
21 {\ifcaption@star\else
22 \begingroup
23 \captionlabelfont
24 \LWR@isolate{#1}% l warp
25 \endgroup
26 \fi}%
27 {\ifcaption@star\else
28 \begingroup
29 \caption@iflabelfont\captionlabelfont
30 \relax\caption@labelsep
31 \endgroup
32 \fi}%
33 {{\captiontextfont
34 \let\\newline% l warp
35 %
36 \caption@textstart
37 %
38 \caption@ifstrut
39 {\vrule\@height\ht\strutbox\@width\z@}%
40 {}%
41 \nobreak\hskip\z@skip % enable hyphenation
42 %
43 \LWR@isolate{\caption@textformat{#2}}% l warp
44 %
45 \caption@ifstrut
46 {\ifhmode\@finalstrut\strutbox\fi}%
47 {}%
48 \caption@textend}%
49 %
50 }% later than 2020/08/23
51 {% earlier than 2020/08/23
52 \renewcommand\caption@@make[2]{%
53 \LWR@traceinfo{\caption@@make}%
54 \LWR@startpars% l warp
55 \sbox\@tempboxa{#1}%
56 \ifdim\wd\@tempboxa=\z@
57 \let\caption@lsep\relax
58 \fi
59 \caption@ifempty{#2}{%
60 \let\caption@lsep\empty
61 \let\caption@tfmt\@firstofone
62 }%
63 \@setpar{\@@par\caption@@par}\caption@@par
64 \caption@applyfont
```

\caption@fmt with plain format is defined as {#1#2#3\par}:

```
64 % \caption@fmt
65 {\ifcaption@star\else
66 \begingroup
67 \captionlabelfont
68 \LWR@isolate{#1}% lwarp
69 \endgroup
70 \fi}%
71 {\ifcaption@star\else
72 \begingroup
73 \caption@iflf\captionlabelfont
74 \relax
75 \caption@lsep
76 \endgroup
77 \fi}%
78 {{%
79 \captiontextfont
80 \let\\newline% lwarp
81 % \caption@ifstrut
82 % {\vrule\@height\ht\strutbox\@width\z@}%
83 % {}%
84 % \nobreak\hskip\z@skip % enable hyphenation
85 \LWR@isolate{\caption@tfmt{#2}}% lwarp
86 % \caption@ifstrut
87 % {\ifhmode\@finalstrut\strutbox\fi}%
88 % {}%
89 }}%
90 \LWR@startpars% lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23
```

```
\caption@@make@ {\langle\rangle} {\langle\rangle}
94 \renewcommand{\caption@@make@}[2]{%
95 \caption@stepthecounter%
96 \caption@beginhook%
97 \caption@@make{#1}{#2}%
98 \caption@endhook%
99 }

100 \DeclareCaptionBox{none}{#2}
101 \DeclareCaptionBox{parbox}{%
102 #2%
103 }

104 \DeclareCaptionBox{colorbox}{%
105 #2%
106 }
```

---

**File 71 l warp-cases.sty**

§ 180 Package **cases**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cases cases is patched for use by l warp.

While using MATHJAX, cases objects are converted to svg math images. The MathJax 3.2 cases package does not yet work with l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cases}[2002/05/02]

```
2 \BeforeBeginEnvironment{numcases}{

3 \begin{BlockClass}{displaymathnumbered}
4 \LWR@newautoidanchor%
5 \booltrue{\LWR@indisplaymathimage}%
6 \begin{lateximage}[-cases- \MathImageAltText]
7 }
8
9 \AfterEndEnvironment{numcases}{

10 \end{lateximage}\end{BlockClass}
11 }

12
13 \BeforeBeginEnvironment{subnumcases}{

14 \begin{BlockClass}{displaymathnumbered}
15 \LWR@newautoidanchor%
16 \booltrue{\LWR@indisplaymathimage}%
17 \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{

21 \end{lateximage}\end{BlockClass}
22 }
```

---

**File 72 l warp-ccicons.sty**

§ 181 Package **ccicons**

(Emulates or patches code by MICHAEL UMMELS.)

Pkg ccicons ccicons is used as SVG images for HTML.

**for HTML output:** Discard all options for l warp-ccicons:

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

2 \newcommand{\LWR@ccicons}[2]{%

---

```

3 {\begin{lateximage}*[#1]\ccicons@font\char#2\end{lateximage}}
4 }
5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}
8 \renewcommand{\ccicons@nd}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

---

File 73 **l warp-centerlastline.sty**

§ 182 Package **centerlastline**

Pkg centerlastline centerlastline is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

2 \providecommand{\centerlastline}{}  
3 \def\endcenterlastline{\par}

---

File 74 **l warp-centernot.sty**

§ 183 Package **centernot**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg centernot centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

2 \begin{warpMathJax}  
3 \CustomizeMathJax{\require{centernot}}  
4 \end{warpMathJax}

---

File 75 **l warp-changebar.sty**

§ 184 Package **changebar**

Pkg changebar changebar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```
2 \newcommand*\{\cbstart\}{}
3 \newcommand*\{\cbend\}{}
4 \newenvironment*\{\changebar\}{}{}
5 \newcommand*\{\cbdelete\}{}
6 \newcommand*\{\nochnagebars\}{}
7 \newcommand*\{\cbccolor\}[1]{}
8 \newlength{\changebarwidth}
9 \newlength{\deletebarwidth}
10 \newlength{\changebarsep}
11 \newcounter{changebargrey}
```

---

#### File 76 **l warp-changelayout.sty**

### § 185 Package **changelayout**

(Emulates or patches code by AHMED MUSA.)

Pkg changelayout **changelayout** is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

```
2 \renewrobustcmd\cpl@backtodefaults{}
3
4 \renewrobustcmd\cpl@checkifoddpage{
5 \cpl@oddpagefalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{
9 \setkeys[KV]{changelay}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{
15 \setkeys[KV@X]{changelay}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{
21 \setkeys[KV]{changelay}{#1}%
22 \begin{BlockClass}[color:\LWR@colorstyle{named}\{\cpl@textcolor\}]{changelayout}
23 \color{\cpl@textcolor}%
24 \cpl@content
25 \end{BlockClass}
26 }
```

---

**File 77 l warp-changepage.sty****§ 186 Package changes**

(Emulates or patches code by PETER WILSON.)

Pkg changes changepage is ignored.

**for HTML output:** Discard all options for l warp-changepage:

```
1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpage
3 \DeclareRobustCommand{\checkoddpage}{\oddpage=true}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changepage}[9]{}
6
7 \@ifundefined{adjustwidth}{}
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}
```

---

**File 78 l warp-changes.sty****§ 187 Package changes**

(Emulates or patches code by EKKART KLEINOD.)

Pkg changes changes is patched for use by l warp.

 **\comment** Use commandnameprefix=ifneeded to avoid a conflict with the \comment command when using l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \renewcommand{\ChangesListline}[4]{%
3 \IfIsInList{#1}{\Changes@loc@show}{%
4 \LWR@startpars%
5 #2: #3 \qquad}}
```

```
6 \nameref{\BaseJobname-autopage-\#4}%
7 \LWR@stoppars%
8 }{}%
9 }
10
11 \renewcommand{\listofchanges}[1][\empty]{%
12 \setkeys{Changes@loc}{#1}%
13 \ifbool{Changes@optiondraft}{%
14 {%
15 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
16 }{}%
17 {%
18 \PackageWarning{changes}{Wrong style for list of changes: '\Changes@loc@style', using 'list' instead.}%
19 \def\Changes@loc@style{}%
20 }{}%
21 \IfIsEmpty{\Changes@loc@style}{%
22 {\def\Changes@loc@style{list}}{}%
23 }{}%
24 \IfStrEq{\Changes@loc@show}{all}{%
25 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}{}%
26 }{}%
27 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}{%
28 }{}%
29 {%
30 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead.}%
31 \def\Changes@loc@show{}%
32 }{}%
33 \IfIsEmpty{\Changes@loc@show}{%
34 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}{}%
35 }{}%
36 \IfIsEmpty{\Changes@loc@title}{%
37 {%
38 \IfStrEq{\Changes@loc@style}{list}{%
39 {\def\Changes@heading{\listofchangesname}}{}%
40 \IfStrEq{\Changes@loc@style}{summary}{%
41 {\def\Changes@heading{\summaryofchangesname}}{}%
42 \IfStrEq{\Changes@loc@style}{compactsummary}{%
43 {\def\Changes@heading{\compactsummaryofchangesname}}{}%
44 }{}%
45 {\def\Changes@heading{\Changes@loc@title}}{}%
46 \section*\{\Changes@heading\}%
47 \IfIsInList{\Changes@loc@style}{list}{%
48 {%
49 \IfFileExists{\jobname.\Changes@locextension}{%
50 {%
51 \newread\Changes@InFile%
52 \openin\Changes@InFile=\jobname.\Changes@locextension%
53 \loop\unless\ifeof\Changes@InFile%
54 \read\Changes@InFile to \Changes@Line%
55 \ifeof\Changes@InFile\else%
56 \Changes@Line%
57 \fi%
58 \repeat%
59 \closein\Changes@InFile%
60 }{}}}
```

```
61 \emph{\changesnoloc}%
62 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
63 }%
64 }{ }%
65 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
66 {%
67 \IfExists{\jobname.\Changes@socextension}%
68 {%
69 \newread\Changes@InFile%
70 \openin\Changes@InFile = \jobname.\Changes@socextension%
71 \loop\unless\ifeof\Changes@InFile%
72 \read\Changes@InFile to \Changes@Line%
73 \ifeof\Changes@InFile\else%
74 \expandafter\changes@chopline\Changes@Line\\%
75 \textbf{%
76 \IfIsColored{%
77 {\color{\Changes@Incolor}}%
78 { }%
79 \IfIsAnonymous{\Changes@Inid}%
80 {%
81 \LWR@textcurrentcolor{%
82 \changesauthorname: \changesanonymousname%
83 }%
84 }%
85 { }%
86 \LWR@textcurrentcolor{%
87 \changesauthorname: \Changes@Inid%
88 }%
89 \IfIsEmpty{\Changes@Inname}%
90 { }%
91 { %
92 \LWR@textcurrentcolor{%
93 (\Changes@Inname)%
94 }%
95 }%
96 }%
97 }\\%
98 \numdef{\Changes@InSum}{0}%
99 \renewcommand*\do[1]{%
100 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
101 }%
102 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
103 \ifnumcomp{\Changes@InSum}{=}{0}{%
104 {%
105 % \parbox{\Changes@summary@width}{%
106 \changesnochanges%
107 }%
108 % \\[1ex]%
109 \par% \lwarf
110 }%
111 {%
112 \numdef{\Changes@InCount}{0}%
113 \renewcommand*\do[1]{%
114 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
115 \ifboolexpr{%
```

```
116 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
117 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
118 }%
119 {%
120 \% \parbox{\Changes@summary@width}{% lwarp
121 \csuse{changes#####1name}~%
122 \% \let\cleaders\leaders\dotfill~% lwarp
123 \dotfill~% \l warp
124 \csuse{Changes@In#####1}%
125 \% lwarp
126 \% \ifnumless{\Changes@InCount}{\Changes@InSum}%
127 {}%
128 {}%
129 {}%
130 {}%
131 {}%
132 \expandafter\oops\list\expandafter{\Changes@loc@show}%
133 \par% lwarp
134 }%
135 \fi%
136 \repeat
137 \closein\Changes@InFile%
138 }{%
139 \emph{\changesnosoc}%
140 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
141 }%
142 }{ }%
143 }{ }%
144 }
145
146
147 \renewcommand{\Changes@Markup@comment}[3]{%
148 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
149 {%
150 \IfIsColored{%
151 {\colorlet{Changes@todocolor}{authorcolor}}%
152 {\colorlet{Changes@todocolor}{black}}%
153 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, nolist]{ }%
154 }{ }%
155 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
156 {%
157 \marginpar{%
158 \IfIsColored{%
159 {\leavevmode\color{authorcolor}}%
160 }{ }%
161 \LWR@textcurrentcolor% lwarp
162 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{Changes@commentCount#2}]:} #1%
163 }% lwarp
164 }{ }%
165 }{ }%
166 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
167 {%
168 \footnote{%
169 \LWR@textcurrentcolor% lwarp
170 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{Changes@commentCount#2}]:} #1%
```

```
171 }% lwarf
172 }%
173 }{ }%
174 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
175 {%
176 {%
177 \IfIsColored%
178 {\color{authorcolor}}%
179 { }%
180 \allowbreak%
181 \uwave{%
182 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{Changes@commentCount#2}]:} #1%
183 }%
184 { }%
185 }{ }%
186 }
187
188 \renewrobustcmd{\Changes@output}[7]{%
189 \ifbool{Changes@optiondraft}{%
190 {%
191 \Changes@check@author{#2}%
192 \Changes@set@color{#2}%
193 {%
194 \IfIsInList{#1}{added|deleted|replaced|highlight}%
195 {%
196 \IfIsEmpty{#5}%
197 {%
198 \IfIsAuthorEmptyAtPosition{#2}{left}%
199 { }%
200 { }{%
201 \IfIsColored%
202 {\color{authorcolor}}%
203 { }%
204 \LWR@textcurrentcolor{%
205 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
206 }% lwarf
207 }{ }%
208 }{ }%
209 {%
210 \IfStrEq{#1}{highlight}%
211 { }{%
212 \IfIsColored%
213 {\color{authorcolor}}%
214 { }%
215 }%
216 \LWR@textcurrentcolor{%
217 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{ }%
218 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{ }%
219 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{ }%
220 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{ }%
221 }% lwarf
222 }%
223 \IfIsEmpty{#5}{%
224 {%
225 \IfIsAuthorEmptyAtPosition{#2}{right}%

```

```
226 { }%
227 {{%
228 \IfIsColored%
229 {\color{authorcolor}}%
230 { }%
231 \LWR{textcurrentcolor}{% lwarf
232 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
233 }% lwarf
234 }{ }%
235 }{ }%
236 \stepcounter{Changes@#1Count#2}%
237 }{ }%
238 \IfIsEmpty{#5}%
239 { }%
240 {%
241 \stepcounter{Changes@commentCount#2}%
242 \Changes@set@commentcount{#2}%
243 \Changes@Markup@comment%
244 {#5}%
245 {#2}%
246 {\Changes@output@author{#2}}%
247 }%
248 }%
249 \IfIsEmpty{#2}%
250 {\def\Changes@locid{}}
251 {\def\Changes@locid{\~{#2}}}
252 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}
253 }%
254 {%
255 \IfIsEmpty{#3}%
256 {\@bsphack\@esphack}%
257 {#3}%
258 }%
259 }
```

---

**File 79 lwarf-chappg.sty****§ 188 Package chappg**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg chappg chappg is ignored.

**for HTML output:**

```
1 \LWR{ProvidesPackageDrop{chappg}}[2006/05/09]

2 \renewcommand{\pagenumbering}[2][]{}
3 \providecommand{\chappgsep}{--}
```

---

**File 80 l warp-chapterbib.sty****§ 189 Package chapterbib**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg chapterbib chapterbib is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

```
2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname
```

---

**File 81 l warp-chemfig.sty****§ 190 Package chemfig**

(Emulates or patches code by CHRISTIAN TELLECHEA.)

Pkg chemfig chemfig is patched for use by l warp.

If using \polymerdelim to add delimiters to a \chemfig, wrap both inside a single \lateximage:

```
\begin{latextimage}[-chemfig-\~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{latextimage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]

```
2 \catcode`_=11
3
4 \@ifpackagelater{chemfig}{2020/03/05}
5 {
6 \xpretocmd\charge{\begin{latextimage}[-chemfig-\~\PackageDiagramAltText]}
7 {}{\LWR@patcherror{chemfig}{charge}}
8 \xpretocmd\Charge{\begin{latextimage}[-chemfig-\~\PackageDiagramAltText]}
9 {}{\LWR@patcherror{chemfig}{Charge}}
10 \xapptocmd\charge_c{\end{latextimage}}
11 {}{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \@ifpackagelater{chemfig}{2019/04/18}%
15 {%
 2019/04/18 or newer
}
```

```
16 \xpretocmd{\CF_chemfiga}{%
17 {\begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
18 {}{\LWR@patcherror{chemfig}{CF_chemfiga}}%
19 }%
20 \xpatchcmd{\CF_chemfigb}{%
21 {\let\CF_flipstate\CF_zero}%
22 {\end{ lateximage }\let\CF_flipstate\CF_zero}%
23 {}{\LWR@patcherror{chemfig}{CF_chemfigb}}%
24 }%
25 \GlobalLetLtxMacro{\LWR@chemfig@origCF_lewisc}{\CF_lewisc}%
26 \gdef\CF_lewisc#1,#2_\nil{%
27 \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
28 \LWR@chemfig@origCF_lewisc#1,#2_\nil
29 \end{ lateximage }%
30 }%
31 \gpreto{\schemestart}{%
32 \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
33 }%
34 \gappto{\CF_schemestop}{\end{ lateximage }}%
35 }%
36 }%
37 }% 2019/04/18 or newer
38 {%
39 older than 2019/04/18
40 \LetLtxMacro{\LWR@chemfig@origchemfig}{chemfig}%
41 \DeclareDocumentCommand{\chemfig}{s O{} O{} m}{%
42 \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
43 \IfBooleanTF{#1}{%
44 \LWR@chemfig@origchemfig*[#2][#3]{#4}%
45 }{%
46 \LWR@chemfig@origchemfig[#2][#3]{#4}%
47 }%
48 \end{ lateximage }%
49 }%
50 }%
51 \LetLtxMacro{\LWR@chemfig@origCF@lewis@b}{\CF@lewis@b}%
52 \def\CF@lewis@b#1#2{%
53 \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
54 \LWR@chemfig@origCF@lewis@b{#1}{#2}%
55 \end{ lateximage }%
56 }%
57 \preto{\schemestart}{%
58 \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
59 }%
60 \appto{\CF@schemestop}{\end{ lateximage }}%
61 }%
62 }%
63 }%
64 }% older than 2019/04/18
65 }%
66 \catcode`_=8%
67
```

---

```

71 \LetLtxMacro{\LWR@chemfig}{\origchemleft\chemleft}
72
73 \def\chemleft#1#2\chemright#3{%
74 \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
75 \LWR@chemfig{\origchemleft#1#2\chemright#3}%
76 \end{ lateximage }%
77 }
78
79 \LetLtxMacro{\LWR@chemfig}{\origchemup\chemup}
80
81 \def\chemup#1#2\chemdown#3{%
82 \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
83 \LWR@chemfig{\origchemup#1#2\chemdown#3}%
84 \end{ lateximage }%
85 }
```

---

## File 82 l warp-chemformula.sty

### § 191 Package **chemformula**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg chemformula chemformula is patched for use by l warp.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

⚠ **chemformula with MATHJAX** chemformula works best without MATHJAX. If MATHJAX is used, \displaymathother must be used before array, and then \displaymathnormal may be used after. (The chemformula package adapts to array, but does not know about MATHJAX, and MATHJAX does not know about chemformula.)

While using MATHJAX, \displaymathother may also be used for other forms of display and inline math which contain chemformula expressions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemformula}[2019/10/13]

2 \ExplSyntaxOn

\ch Enclose in an inline SVG image or MATHJAX. The alt tag is the contents of the \ch expression. The filename is hashed, and also has additional hashing information based on the local options.

3 \RenewDocumentCommand \ch { O{}m }
4 {%

To work inside align with \displaymathother, a simple version must be used to work with chemformula's adaptation to align.

```

5 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{% l warp
6 {
7 \chemformula_ch:nn {#1} {#2}%
8 }
```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

9 {
10 \begingroup%
11 \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

12 \LWR@subsingle$*{%
13 \textbackslash{}ch\{\LWR@HTMLsanitize{\#2}\}% alt text
14 }{%
15 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}% add'l hashing
16 }{%
17 \chemformula_ch:nn {\#1} {\#2}% original
18 }{%
19 \endgroup%
20 }
21 }
22 }

```

\chcpd Similar to \ch.

```

23 \@ifpackagelater{chemformula}{2019/10/13}%
24 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
25 {
26 \begingroup%
27 \boolfalse{mathjax}%
28 \LWR@subsingle$*{%
29 \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}%
30 }{%
31 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
32 }{%
33 \group_begin:
34 \tl_if_blank:nF {\#2}
35 {
36 \keys_set:nn {chemformula} {\#1}
37 __chemformula_save_catcodes:
38 __chemformula_sanitze:Nn
39 \l__chemformula_chemformula_tmpa_tl
40 {\#2}
41 __chemformula_input_compound_no_check:NV
42 \l__chemformula_compound_tl
43 \l__chemformula_chemformula_tmpa_tl
44 __chemformula_prepare_output:NV
45 \l__chemformula_compound_tl
46 \l__chemformula_catcodes_tl
47 \chemformula_write:V \l__chemformula_compound_tl
48 }
49 \group_end:
50 }
51 \endgroup
52 }
53 }% later than 2019/10/13
54 {% earlier than 2019/10/13
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57 \begingroup%

```

```

58 \boolfalse{mathjax}%
59 \LWR@subsingle$*{%
60 \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}%
61 }{%
62 \protect\HTMLsanitize{\detokenize\expandafter{\#1}}%
63 }% original
64 \group_begin:
65 \tl_if_blank:nF {\#2}
66 {
67 \keys_set:nn {chemformula} {\#1}
68 __chemformula_save_catcodes:
69 __chemformula_sanitze:Nn
70 \l__chemformula_chemformula_tmpa_tl
71 {\#2}
72 __chemformula_input_compound_no_check:NV
73 \l__chemformula_compound_tl
74 \l__chemformula_chemformula_tmpa_tl
75 __chemformula_prepare_output:N \l__chemformula_compound_tl
76 \chemformula_write:V \l__chemformula_compound_tl
77 }
78 \group_end:
79 }
80 \endgroup
81 }
82 }% earlier than 2019/10/13

```

\charrow If standalone, appears in a regular `lateximage`.

```

83 \RenewDocumentCommand \charrow { mO{}O{} }
84 {
85 \begin{lateximage}[-chemformula- charrow]
86 \group_begin:
87 __chemformula_draw_arrow:nnn {\#1} {\#2} {\#3}
88 \group_end:
89 \end{lateximage}
90 }

```

\chname If standalone, appears in a regular `lateximage`, hashed according to contents.

```

91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93 \begin{lateximage}*[%
94 \textbackslash{}chname(\LWR@HTMLsanitize{\#1})(\LWR@HTMLsanitize{\#2})
95]*%
96 \chemformula_chwritebelow:nn {\#1} {\#2}
97 \end{lateximage}
98 }

```

\chlewis Placed inline, hashed according to contents and options.

```

99 \RenewDocumentCommand \chlewis { O{}mm }
100 {
101 \begingroup%
102 \boolfalse{mathjax}%
103 \LWR@subsingle$*{\textbackslash{}chlewis\{\#2\}\{\#3\}}%

```

```

104 {
105 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
106 }{
107 \chemformula_lewis:nnn {\#1} {\#2} {\#3}
108 }
109 \endgroup%
110 }

```

`lwarp` redefines the \$ character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```
111 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

### \chemformula\_input\_escape\_math

Adds additional escaping for the new dollar definition:

```

112 \cs_gset_protected:Npn __chemformula_input_escape_math:n #1
113 {
114 __chemformula_first_last_math:n {\#1}
115 \bool_if:NT \l__chemformula_first_last_dollar_bool
116 {
117 \bool_set_true:N \l__chemformula_first_last_math_bool
118 __chemformula_read_escape_dollar:w #1 \q_nil
119 }
120 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
121 {
122 \bool_set_true:N \l__chemformula_first_last_math_bool
123 __chemformula_read_escape_mathbraces:w #1 \q_nil
124 }

```

Added by `lwarp`:

```

125 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
126 {
127 \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
128 __chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
129 }
130 }
```

### \chemformula\_read\_escape\_LWRdollar

The following parses the contents inside the new dollars.

`lwarp` keeps the dollar as its original math shift until the document starts. While `chemmacros` is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

131 \begingroup
132 \catcode`\$=\active
133
134 \cs_new_protected:Npn __chemformula_read_escape_LWRdollar:w $$\#1\$ \q_nil
135 {
```

```

136 __chemformula_read_escape_math:n {#1}
137 }
138
139 \endgroup

```

## \chemformula\_bool\_set\_if\_first\_last

The following looks at the first and last tokens for delimiters to escape math inside \ch. The original definition is modified to look for the control sequences which are used by the new meaning of \$.

```

140 \cs_new_protected:Npn __chemformula_bool_cs_set_if_last:NnNN #1#2#3#4
141 {
142 \int_zero:N \l__chemformula_tmpa_int
143 \int_zero:N \l__chemformula_tmpb_int
144 \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
145 \tl_map_inline:nn {#2}
146 {
147 \int_incr:N \l__chemformula_tmpb_int
148 \int_compare:nt { \l__chemformula_tmpb_int = 1 }
149 }

```

At the start, the cs\_ version compares control sequences:

```

150 \ifdefstreq{##1}{#3}%
151 {
152 \bool_set_true:N #1
153 }%
154 {}
155 }

```

At the end, compare more control sequences:

```

156 \int_compare:nt { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
157 {
158 \ifdefstreq{##1}{#4}
159 {}
160 {
161 \bool_set_false:N #1
162 }
163 }
164 }
165 }

```

## \chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

166 \cs_gset_protected:Npn __chemformula_first_last_math:n #1
167 {
168 \bool_set_false:N \l__chemformula_first_last_math_bool
169 \bool_set_false:N \l__chemformula_first_last_dollar_bool
170 \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
171 \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
172 __chemformula_bool_set_if_first_last:Nnnn
173 \l__chemformula_first_last_dollar_bool

```

```

174 {#1}
175 { $ } { $ }
176 \bool_if:NF \l__chemformula_first_last_dollar_bool
177 {
178 __chemformula_bool_set_if_first_last:Nnnn
179 \l__chemformula_first_last_mathbraces_bool
180 {#1}
181 { \() { \) }

```

Added by l warp:

```

182 \bool_if:NF \l__chemformula_first_last_mathbraces_bool% l warp
183 {
184 __chemformula_bool_cs_set_if_first_last:NnNN
185 \l__chemformula_first_last_LWRdollar_bool
186 {#1}
187 { \LWR@newsingledollar } { \LWR@newsingledollar }
188 }% l warp
189 }
190 }

191 \ExplSyntaxOff

```

### File 83 l warp-chemgreek.sty

## § 192 Package chemgreek

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by l warp.

**Greek symbols** To use text-mode symbols, use packages textalpha or textgreek. Using the other packages supported by chemgreek will result in math-mode greek characters, which will result in SVG images being used. These images will be hashed.

**⚠ package selection** If using X E T A X or L u a T A X , select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } } }%
10 }
11
12 \ExplSyntaxOff

```

---

**File 84 l warp-chemmacros.sty****§ 193 Package chemmacros**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros chemmacros is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

SVG file hashing assumes that the relevant options are constant for the entire document.

**§ 193.1 Changes to the user's document**

⚠ \makepolymerdelims When using \makepolymerdelims, enclose the entire expression inside a polymerdelims environment, such as (from the chemmacros manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

---

⚠ redox reactions Redox reactions must be enclosed inside a redoxreaction environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the chemmacros manual. For HTML output, the extra space is ignored and a lateximage is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} \rightarrow \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

**§ 193.2 Code****§ 193.3 Loading modules**

Patching chemmacros modules must be done \AtBeginDocument, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

```
2 \ExplSyntaxOn
3
4 \newcommand{\ifchemmacromoduleloaded}[1]{%
5 \@ifl@aded{\c__chemmacros_module_extension_tl}{\c__chemmacros_module_prefix_tl.\#1}%
6 }
7
8 \ExplSyntaxOff
```

### § 193.4 New environments

\makepolymerdelims and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `l warp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```
9 \DeclareDocumentEnvironment{polymerdelims}{}
10 {\begin{lateximage}[-chemmacros- polymer]}
11 {\end{lateximage}}
```

Env `redoxreaction` {*space above*} {*space below*}

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 90.

```
12 \DeclareDocumentEnvironment{redoxreaction}{m m}
13 {\begin{lateximage}[-chemmacros- redoxreaction]}
14 {\end{lateximage}}

15 \ExplSyntaxOn
```

### § 193.5 Acid-base

```
16 \AtBeginDocument{
17 @ifchemmacrosmoduleloaded[acid-base]{
18 \PackageInfo{l warp}{Patching~chemmacros~module~acid-base}
19
20 \cs_gset_protected:Npn \chemmacros_p:n #1
21 {
22 \begingroup
23 \boolfalse{mathjax}
24 \LWR@subsingledollar*{
25 \textbackslash{}p\{\LWR@HTMLsanitize{\#1}\}\}
26 }{
27 chemmacrosp\protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
28 }{
29 \group_begin:
30 \mbox
31 {
32 \chemmacros_p_style:n {p}
33 \ensuremath {\#1}
34 }
35 \group_end:
36 }
37 \endgroup
38 }
39
40 \RenewDocumentCommand \pH {} {
41 \begingroup
42 \boolfalse{mathjax}
43 \LWR@subsingledollar*{\textbackslash{}pH}{chemmacros}{
44 \chemmacros_p:n { \chemmacros_chemformula:n {H} } }
```

```
45 }
46 \endgroup
47 }
48
49 \RenewDocumentCommand \pOH {} {
50 \begingroup
51 \boolfalse{mathjax}
52 \LWR@subsingledollar*\{\textbackslash{}pOH\}{chemmacros}%
53 \chemmacros_p:n { \chemmacros_chemformula:n {OH} }
54 }
55 \endgroup
56 }
57
58 \RenewDocumentCommand \pKa {O{}}
59 {
60 \begingroup
61 \boolfalse{mathjax}
62 \LWR@subsingledollar*\{\textbackslash{}pKa{[]}\}{chemmacros #1}%
63 \chemmacros_p:n
64 {
65 \Ka \ifblank {\#1} {}
66 { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
67 }
68 }
69 \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {O{}}
73 {
74 \begingroup
75 \boolfalse{mathjax}
76 \LWR@subsingledollar*\{\textbackslash{}pKb{[]}\}{chemmacros #1}%
77 \chemmacros_p:n
78 {
79 \Kb \ifblank {\#1} {}
80 { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
81 }
82 }
83 \endgroup
84 }
85
86 \LetLtxMacro \LWR@chemmacros@origKa \Ka
87 \renewcommand*{\Ka}{%
88 \begingroup
89 \boolfalse{mathjax}
90 \LWR@subsingledollar*\{\textbackslash{}Ka\}{chemmacros}%
91 \LWR@chemmacros@origKa%
92 }%
93 \endgroup
94 }
95
96 \LetLtxMacro \LWR@chemmacros@origKb \Kb
97 \renewcommand*{\Kb}{%
98 \begingroup
99 \boolfalse{mathjax}
```

```

100 \LWR@subsingledollar*\{\textbackslash\}Kb\}{chemmacros}\{%
101 \LWR@chemmacros@origKb\%
102 }%
103 \endgroup
104 }
105
106 \LetLtxMacro{\LWR@chemmacros@origKw\Kw
107 \renewcommand*\{\Kw}\{%
108 \begingroup
109 \boolfalse{mathjax}
110 \LWR@subsingledollar*\{\textbackslash\}Kw\}{chemmacros}\{%
111 \LWR@chemmacros@origKw
112 }%
113 \endgroup
114 }
115
116 }\}\%\@ifchemmacrosmoduleloaded
117 }\%\AtBeginDocument

```

### § 193.6 Charges

```

118 \AtBeginDocument{
119 \ifchemmacrosmoduleloaded{charges}\{
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
121
122 \cs_gset_protected:Npn \fplus {
123 \begingroup
124 \boolfalse{mathjax}
125 \LWR@subsingledollar*\{\textbackslash\}fplus\}{chemmacros}\{%
126 \LWR@origensuredmath{\chemformula_fplus:}%
127 \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130 \begingroup
131 \boolfalse{mathjax}
132 \LWR@subsingledollar*\{\textbackslash\}fminus\}{chemmacros}\{%
133 \LWR@origensuredmath{\chemformula_fminus:}%
134 \endgroup
135 }
136
137 }\}\%\@ifchemmacrosmoduleloaded
138 }\%\AtBeginDocument

```

### § 193.7 Nomenclature

```

139 \AtBeginDocument{
140 \ifchemmacrosmoduleloaded{nomenclature}\{
141 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
142
143 \cs_gset_protected:Npn \chemmacros_charge:n #1
144 {
145 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}
146 {\chemmacros_chemformula:n { {}^{\#1} } }
147 {
148 \ifmmode

```

```
149 {\chemmacros_chemformula:n { {}^{\#1} } }
150 \else
151 { \textsuperscript{\ensuremath{\#1}} }
152 \fi
153 }
154 }
155
156
157 \LetLtxMacro{\LWR@chemmacros@origchemprime}{\chemprime}
158
159 \protected\def\chemprime {\HTMLUnicode{2032}}
160
161 \appto{\LWR@restoreorigformatting}{%
162 \LetLtxMacro{\chemprime}{\LWR@chemmacros@origchemprime}%
163 }

164 \ChemCompatibilityFrom{5.8}
165 \cs_gset_protected:Npn __chemmacros_cip:n #1
166 {
167 \tl_set:Nn \l__chemmacros_tmpa_tl {\#1}
168 \int_step_inline:nnn {0} {1} {9}
169 {
170 \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
171 {##1}
172 { \l__chemmacros_cip_number_tl ##1 }
173 }
174 {
175 \l__chemmacros_cip_inner_tl
176 \LWR@textcurrentcolor{\LWR@textcurrentfont\% lwarp
177 \l__chemmacros_tmpa_tl
178 }\% lwarp
179 }
180 }
181 \EndChemCompatibility

182 \RenewDocumentCommand \Sconf { O{S} } {
183 \begin{latextimage}[\textbackslash{}Sconf{[]}\#1{}]]*
184 \chemmacros_sconf:n {\#1}
185 \end{latextimage}
186 }
187
188 \RenewDocumentCommand \Rconf { O{R} } {
189 \begin{latextimage}[\textbackslash{}Rconf{[]}\#1{}]]*
190 \chemmacros_rconf:n {\#1}
191 \end{latextimage}
192 }

193 \cs_gset_protected:Npn \chemmacros_hapo:n #1
194 {
195 \begingroup
196 \boolfalse{mathjax}
197 \LWR@subsingleollar*\textbackslash{}hapo{\#1}{chemmacros}(
198 \chemmacros_coordination_symbol:nnn
199 { \l__chemmacros_coord_use_hyphen_bool }
200 {
201 \chemmacros_if_compatibility:nnTF {>} {5.7}
```

```

202 { \c_true_bool }
203 { \c_false_bool }
204 }
205 { \chemeta }
206 {#1}
207 }
208 \endgroup
209 }
210
211 \cs_gset_protected:Npn \chemmacros_dento:n #1
212 {
213 \begingroup
214 \boolfalse{mathjax}
215 \LWR@subsingledollar*\{\textbackslash{}dento\{#1\}\}{chemmacros}%
216 \chemmacros_coordination_symbol:nnn
217 { \l_chemmacros_coord_use_hyphen_bool }
218 {
219 \chemmacros_if_compatibility:nTF {>} {5.7}
220 { \c_true_bool }
221 { \c_false_bool }
222 }
223 { \chemkappa }
224 {#1}
225 }
226 \endgroup
227 }
228
229 \cs_gset_protected:Npn \chemmacros_bridge:n #1
230 {
231 \begingroup
232 \boolfalse{mathjax}
233 \LWR@subsingledollar*\{\textbackslash{}bridge\{#1\}\}{chemmacros}%
234 \chemmacros_coordination_symbol:nnn
235 { \l_chemmacros_coord_use_hyphen_bool }
236 { \l_chemmacros_bridge_super_bool }
237 { \chemmu }
238 {#1}
239 }
240 \endgroup
241 }
242 }% \ifchemmacrosmoduleloaded
243 }% AtBeginDocument

```

### § 193.8 Particles

```

244 \AtBeginDocument{
245 @ifchemmacrosmoduleloaded{particles}%
246 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
247
248 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
249 {
250 \cs_set_protected:cpx {__chemmacros_ \chemmacros_remove_backslash:N #1:}
251 {
252 \bool_if:NTF \l_chemmacros_nucleophile_elpair_bool
253 {
254 \chemmacros_elpair:n { #2 }

```

```

255 \chemmacros_if_compatibility:nnT {>=}{5.3}
256 { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
257 \chemmacros_chemformula:n { {}^{\{-\}} }
258 }
259 { \chemmacros_chemformula:n { #2^{\{-\}} } }
260 }
261 \DeclareDocumentCommand #1 {o}
262 {
263 \begin{latextimage}%
264 \group_begin:%
265 \IfNoValueF {##1}%
266 { \chemmacros_set_keys:nn {particles}{##1} }%
267 \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
268 \group_end:%
269 \end{latextimage}%
270 }
271 }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}
275
276 }{}% \ifchemmacrosmoduleloaded
277 }% AtBeginDocument

```

### § 193.9 Phases

```

278 \AtBeginDocument{
279 \ifchemmacrosmoduleloaded{phases}%
280 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
281
282 \cs_undefine:N \chemmacros_phase:n
283 \cs_new_protected:Npn \chemmacros_phase:n #1
284 {
285 \mode_leave_vertical:
286 \bool_if:NTF \l__chemmacros_phases_sub_bool
287 {
288 \ifnumequal{\value{LWR@latextimedepth}}{0}
289 {
290 \textsubscript{ (#1) }
291 }
292 {
293 \chemformula_subscript:n { (#1) }
294 }
295 }
296 {
297 \skip_horizontal:N \l__chemmacros_phases_space_dim
298 \chemmacros_text:n { (#1) }
299 }
300 }
301
302 }{}% \ifchemmacrosmoduleloaded
303 }% AtBeginDocument

```

### § 193.10 Mechanisms

```
304 \AtBeginDocument{
305 \@ifchemmacrosmoduleloaded{mechanisms}{
306 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
307
308 \chemmacros_define_keys:nn {textmechanisms}
309 {
310 type .choice: ,
311 type / .code:n =
312 {
313 __chemmacros_set_mechanisms:nnn { S }
314 {
315 \textsubscript{N}
316 }
317 { }
318 } ,
319 type / 1 .code:n =
320 {
321 __chemmacros_set_mechanisms:nnn { S }
322 {
323 \textsubscript{N}
324 1
325 }
326 { }
327 } ,
328 type / 2 .code:n =
329 {
330 __chemmacros_set_mechanisms:nnn { S }
331 {
332 \textsubscript{N}
333 2
334 }
335 { }
336 } ,
337 type / se .code:n =
338 {
339 __chemmacros_set_mechanisms:nnn { S }
340 {
341 \textsubscript{E}
342 }
343 { }
344 } ,
345 type / 1e .code:n =
346 {
347 __chemmacros_set_mechanisms:nnn { S }
348 {
349 \textsubscript{E}
350 1
351 }
352 { }
353 } ,
354 type / 2e .code:n =
355 {
356 __chemmacros_set_mechanisms:nnn { S }
357 { }
```

```
358 \textsubscript{E}
359 2
360 }
361 { }
362 } ,
363 type / ar .code:n =
364 {
365 \chemmacros_set_mechanisms:nnn { S }
366 {
367 \textsubscript{E}
368 }
369 { Ar - }
370 } ,
371 type / e .code:n =
372 { \chemmacros_set_mechanisms:nnn { E } { } { } } ,
373 type / e1 .code:n =
374 { \chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
375 type / e2 .code:n =
376 { \chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,
377 type / cb .code:n =
378 {
379 \chemmacros_set_mechanisms:nnn { E }
380 {
381 1
382 \textsubscript{cb}
383 }
384 { }
385 } ,
386 type .default:n =
387 }
388
389 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
390 {
391 \tl_if_blank:nTF {#1}
392 { \chemmacros_set_keys:nn {textmechanisms} { type } }
393 { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
394 \mbox
395 {
396 \tl_use:N \l_chemmacros_mechanisms_ar_tl
397 \tl_use:N \l_chemmacros_mechanisms_type_tl
398 \tl_use:N \l_chemmacros_mechanisms_mol_tl
399 }
400 }
401
402 \appto\LWR@restoreorigformatting{%
403 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
404 {
405 \tl_if_blank:nTF {#1}%
406 { \chemmacros_set_keys:nn {mechanisms} { type } }%
407 { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
408 \mbox%
409 {
410 \tl_use:N \l_chemmacros_mechanisms_ar_tl%
411 \tl_use:N \l_chemmacros_mechanisms_type_tl%
412 \tl_use:N \l_chemmacros_mechanisms_mol_tl%
```

---

```

413 }%
414 }%
415 }
416
417 }{ }% \@ifchemmacrosmoduleloaded
418 }% AtBeginDocument

```

### § 193.11 Newman

```

419 \AtBeginDocument{
420 \@ifchemmacrosmoduleloaded{newman}{
421 \PackageInfo{lwarf}{Patching~chemmacros~module~newman}
422
423 \RenewDocumentCommand \newman {od()m}%
424 {
425 \IfValueTF{#2}
426 {\begin{ lateximage }[\textbackslash newman{#2}\{#3\}]*
427 {\begin{ lateximage }[\textbackslash newman\{#3\}]*
428 \group_begin:
429 \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
430 \IfNoValueTF {#2}
431 { \chemmacros_newman:nn { } {#3} }
432 { \chemmacros_newman:nn {#2} {#3} }
433 \group_end:
434 \end{ lateximage }
435 }%
436
437 }{ }% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

### § 193.12 Orbital

```

439 \AtBeginDocument{
440 \@ifchemmacrosmoduleloaded{orbital}{
441 \PackageInfo{lwarf}{Patching~chemmacros~module~orbital}
442
443 \RenewDocumentCommand \orbital {om}%
444 {
445 \IfValueTF{#1}
446 {
447 \begin{ lateximage }[%]
448 \textbackslash orbital{[]}\LWR@HTMLsanitize{#1}{[]}\{#2\}%
449]*[[]][margin-left: 1em ; margin-right: 1em]
450 }
451 {
452 \begin{ lateximage }[%]
453 \textbackslash orbital\{#2\}%
454]*[[]][margin-left: 1em ; margin-right: 1em]
455 }
456 \group_begin:
457 \chemmacros_set_keys:nn {orbital/type} {#2}
458 \IfNoValueTF {#1}
459 { \chemmacros_orbital:n { } }
460 { \chemmacros_orbital:n {#1} }
461 \group_end:

```

```

462 \end{lateximage}
463 }
464
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument

```

### § 193.13 Reactions

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list (#2){#3}...>}

467 \AtBeginDocument{
468 \@ifchemmacrosmoduleloaded{reactions}{%
469 \PackageInfo{l warp}{Patching~chemmacros~module~reactions}}
470
471 \cs_gset_protected:Npn \chemmacros_declare_reaction_env:nnnn #1#2#3#4
472 {
473 \exp_args:Nnx \DeclareDocumentEnvironment {#1} { O{} \prg_replicate:nn {#3+0} {m} }
474 {
475 \boolfalse{mathjax}%
476 \ifdefvoid{\LWR@ThisAltText}{%
477 \ThisAltText{-chemmacros~-reaction}%
478 }{}%
479 \chemmacros_add_reaction_description:n {##1}
480 __chemmacros_begin_reaction:
481 \chemmacros_reaction_read:nw {#2} {#4}
482 }
483 {
484 __chemmacros_end_reaction:
485 \gdef\!{\LWR@ThisAltText}{}%
486 }
487 }
488 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
489
490 \RenewChemReaction {reaction} {equation}
491 \RenewChemReaction {reaction*} {equation*}
492 \RenewChemReaction {reactions} {align}
493 \RenewChemReaction {reactions*} {align*}
494
495 }{}% \@ifchemmacrosmoduleloaded
496 }% AtBeginDocument

```

### § 193.14 Redox

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}{%
499 \PackageInfo{l warp}{Patching~chemmacros~module~redox}}
500
501 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
502 {
503 \IfBooleanTF {#1}
504 { \chemmacros_ox:nnnn {#1} {#2} #3 }
505 { \chemmacros_ox:nnnn { } {#2} #3 }
506 }
507
508 \RenewDocumentCommand \ox { s O{} m }

```

```
509 {
510 \begingroup
511 \boolfalse{mathjax}
512 \IfBooleanTF {#1}
513 {
514 \LWR@subsingle$*{%
515 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}}% alt
516 }{%
517 star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518 }{%
519 \LWR@chemmacros@ox* {#2} {#3}% contents
520 }%
521 }
522 {
523 \LWR@subsingle$*{%
524 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}}% alt
525 }{%
526 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
527 }{%
528 \LWR@chemmacros@ox {#2} {#3}% contents
529 }%
530 }
531 \endgroup
532 }
533
534 }{ }% \ifchemmacrosmoduleloaded
535 }% AtBeginDocument
```

### § 193.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```
536 \AtBeginDocument{
537 \ifchemmacrosmoduleloaded{scheme}{%
538 \PackageInfo{l warp}{Patching~chemmacros~module~scheme}}
539
540 \ifdefstring{\schemename}{los}{%
541 \SetupFloatingEnvironment{scheme}{%
542 name = \chemmacros_translate:n {scheme-name}
543 }%
544 }{%
545
546 }{ }% \ifchemmacrosmoduleloaded
547 }% AtBeginDocument
```

### § 193.16 Spectroscopy

```
548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{
550 \PackageInfo{lwarf}{Patching~chemmacros~module~spectroscopy}}
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
554 {
555 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
556 {
557 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
558 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
559 }
560 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
561 % \chemmacros_chemformula:n { ^{#1} }
562 #1
563 \bool_if:NTF \l__chemmacros_nmr_parse_bool
564 { \chemformula_ch:nV {} \g__chemmacros_nmr_element_coupled_tl }
565 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
566 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
567 \tl_use:N \l__chemmacros_nmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
572 {
573 \group_begin:
574 \tl_use:N \l__chemmacros_nmr_base_format_tl
575 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
576 {
577 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
578 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
579 }
580 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
581 % \chemmacros_chemformula:n { ^{#1} }
582 #1
583 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
584 {
585 \bool_if:NTF \l__chemmacros_nmr_parse_bool
586 { \chemformula_ch:nV {} \g__chemmacros_nmr_element_coupled_tl }
587 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
588 }
589 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
590 \tl_use:N \l__chemmacros_nmr_method_tl
591 \group_end:
592 }
593 \EndChemCompatibility
594
595
596 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
597 {
598 \chemmacros_chemformula:x
599 {
600 \exp_not:V \g__chemmacros_nmr_element_tl
601 \bool_if:NF \l__chemmacros_nmr_position_side_bool
```

```
602 {
603 \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
604 { \textsuperscript{\exp_not:n { \#1 } } }% lwarp
605 { \textsubscript{\exp_not:n { \#1 } } }% lwarp
606 % \exp_not:V \l__chemmacros_nmr_position_tl
607 % \exp_not:n { \#1 }
608 }
609 }
610 \bool_if:NT \l__chemmacros_nmr_position_side_bool
611 {
612 \tl_use:N \l__chemmacros_nmr_position_tl
613 \l__chemmacros_nmr_position:n {#1}
614 }
615 }
616
617 \cs_gset_protected:Npn \l__chemmacros_nmr_coupling:w (#1;#2)
618 {
619 \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
620 {
621 \l__chemmacros_nmr_coupling_bonds_pre_tl
622 #1
623 \l__chemmacros_nmr_coupling_bonds_post_tl
624 }
625 \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
626 {
627 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
628 {
629 % \c_math_subscript_token
630 \textsubscript% lwarp
631 {
632 \l__chemmacros_nmr_coupling_nuclei_pre_tl
633 \chemmacros_chemformula:n {#2}
634 \l__chemmacros_nmr_coupling_nuclei_post_tl
635 }
636 }
637 }
638 {
639 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
640 {
641 \l__chemmacros_nmr_coupling_nuclei_pre_tl
642 \chemmacros_chemformula:n {#2}
643 \l__chemmacros_nmr_coupling_nuclei_post_tl
644 }
645 }
646 \l__chemmacros_nmr_coupling_aux_i:w
647 }
648 \AfterEndPreamble{%
649 % \NMR{<num>,<elem>}(<num>,<unit>)[<solvent>] ALL arguments are optional
650 % \NMR* same but without ": $delta$" at end
651 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
652 {
653 \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
654 \group_begin:
655 \mode_leave_vertical:
```

```
656 \bool_set_false:N \l_chemmacros_nmr_frequency_bool
657 \bool_set_false:N \l_chemmacros_nmr_solvent_bool
658 \tl_if_empty:nF {#3}
659 { \bool_set_true:N \l_chemmacros_nmr_frequency_bool }
660 \tl_if_empty:nF {#4}
661 { \bool_set_true:N \l_chemmacros_nmr_solvent_bool }
662 \bool_if:nT
663 {
664 \l_chemmacros_nmr_frequency_bool
665 ||
666 \l_chemmacros_nmr_solvent_bool
667 }
668 { \bool_set_true:N \l_chemmacros_nmr_delimiters_bool }
669 \bool_if:nT
670 {
671 \l_chemmacros_nmr_frequency_bool
672 &&
673 \l_chemmacros_nmr_solvent_bool
674 }
675 { \bool_set_true:N \l_chemmacros_nmr_comma_bool }
676 \tl_if_empty:nTF {#2}
677 {
678 __chemmacros_nmr_nucleus:VV
679 \l_chemmacros_nmr_isotope_default_tl
680 \l_chemmacros_nmr_element_default_tl
681 }
682 { __chemmacros_nmr_nucleus:w #2 \q_stop }
683 \mode_if_math:TF
684 {
685 \text
686 {
687 \group_begin:
688 \tl_use:N \l_chemmacros_nmr_format_tl
689 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
690 __chemmacros_nmr_base:VV
691 \g__chemmacros_nmr_isotope_tl
692 \g__chemmacros_nmr_element_tl
693 \bool_if:NT \l_chemmacros_nmr_delimiters_bool
694 { ~ (} }
695 \bool_if:NT \l_chemmacros_nmr_frequency_bool
696 { __chemmacros_nmr_frequency:n {#3} }
697 \bool_if:NT \l_chemmacros_nmr_comma_bool
698 { , ~ }
699 \bool_if:NT \l_chemmacros_nmr_solvent_bool
700 { \chemmacros_chemformula:n {#4} }
701 \bool_if:NT \l_chemmacros_nmr_delimiters_bool
702 {) }
703 \tl_if_blank:nT {#1} {;~}
704 }% lwarp
705 \group_end:
706 }
707 \tl_if_blank:nT {#1}
708 {
709 \delta
710 \text { \l_chemmacros_nmr_delta_tl }
```

```
711 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
712 }
713 }
714 {
715 \group_begin:
716 \tl_use:N \l__chemmacros_nmr_format_tl
717 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
718 \lwarp
719 \g__chemmacros_nmr_base:VV
720 \g__chemmacros_nmr_isotope_tl
721 \g__chemmacros_nmr_element_tl
722 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
723 {~()}
724 \bool_if:NT \l__chemmacros_nmr_frequency_bool
725 { __chemmacros_nmr_frequency:n {#3} }
726 \bool_if:NT \l__chemmacros_nmr_comma_bool
727 {,~}
728 \bool_if:NT \l__chemmacros_nmr_solvent_bool
729 {
730 \bool_if:NTF \l__chemmacros_nmr_parse_bool
731
732 % { \chemformula_ch:nn { } {#4} }% original
733 {\ch{#4}}% \lwarp
734 {#4}
735 }
736 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
737 {()}

738 }% \lwarp
739 \tl_if_blank:nT {#1} {:}
740 \group_end:
741 \tl_if_blank:nT {#1}
742 {
743 \tl_use:N \c_space_tl
744 \c_math_toggle_token
745 \delta
746 \c_math_toggle_token
747 \l__chemmacros_nmr_delta_tl
748 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
749 }
750 \group_end:
751 }% AfterEndPreamble
752
753
754 \RenewDocumentCommand \chemmacros_data:w { smo }
755 {
756 \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
757 {
758 % \tl_use:N \l__chemmacros_nmr_format_tl #2
759 \tl_use:N \l__chemmacros_nmr_format_tl
760 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
761 \lwarp
762 #2
763 \IfNoValueF {#3} { ~ (#3) }
764 \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
765 }}% \lwarp
```

```

765 }
766 \IfBooleanF {#1} { \bool_if:NT \l__chemm macros_nmr_use_equal_bool { ~ = } }
767 }
768
769 }{}% \@ifchemm macros module loaded
770 }% AtBeginDocument

```

### § 193.17 Thermodynamics

```

771 \AtBeginDocument{
772 \@ifchemm macros module loaded{thermodynamics}{%
773 \PackageInfo{lwarp}{Patching~chemm macros~module~thermodynamics}
774
775 \cs_gset_protected:Npn \chemm macros_state:nn #1#2
776 {
777 \group_begin:
778 \boolfalse{mathjax}
779 \chemm macros_set_keys:nn {thermodynamics} {#1}
780 \LWR@subsingle dollar*{%
781 \textbackslash state{\LWR@HTMLsanitize{#2}}%
782 }{%
783 chemm macros_state% add'l hashing
784 #1% options
785 LSP \tl_use:N \l__chemm macros_state_sp_left_tl% super/subscripts
786 LSB \tl_use:N \l__chemm macros_state_sb_left_tl
787 RSP \tl_use:N \l__chemm macros_state_sp_right_tl
788 RSB \tl_use:N \l__chemm macros_state_sb_right_tl
789 }
790 {
791 \LWR@origensuredmath{%
792 \chemm macros_text:V \l__chemm macros_state_pre_tl
793 \c_math_superscript_token
794 { \chemm macros_text:V \l__chemm macros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

795 \tl_if_empty:NTF \l__chemm macros_state_sb_left_tl
796 {}
797 {
798 \c_math_subscript_token
799 { \chemm macros_text:V \l__chemm macros_state_sb_left_tl }
800 }
801 #2
802 \c_math_superscript_token
803 { \chemm macros_text:V \l__chemm macros_state_sp_right_tl }
804 \tl_if_empty:NTF \l__chemm macros_state_sb_right_tl
805 {}
806 {
807 \c_math_subscript_token
808 { \chemm macros_text:V \l__chemm macros_state_sb_right_tl }
809 }
810 \chemm macros_text:V \l__chemm macros_state_post_tl
811 }
812 }

```

```

813 \group_end:
814 }
815 \cs_generate_variant:Nn \chemmacros_state:nn { nV }
816
817 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
818 {
819 \chemmacros_define_keys:xn
820 {thermodynamics/\chemmacros_remove_backslash:N #1}
821 {
822 pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
823 post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
824 superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
825 superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
826 superscript .meta:n = { superscript-right = ##1 } ,
827 subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
828 subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
829 subscript .meta:n = { subscript-left = ##1 } ,
830 subscript-pos .choices:nn =
831 { left , right }
832 { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
833 symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
834 unit .tl_set:N = \l__chemmacros_state_unit_tl
835 }
836 \DeclareDocumentCommand #1 { sO{}D(){}m }
837 {
838 \group_begin:
839 \chemmacros_set_keys:xn
840 {thermodynamics/\chemmacros_remove_backslash:N #1}
841 {##2}
842 \tl_if_blank:nF {##3}
843 {
844 \chemmacros_set_keys:nx {thermodynamics}
845 { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
846 }
847 \chemmacros_state:nV {##2} \l__chemmacros_state_symbol_tl
848 \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
849 \IfBooleanF {##1} { = ~ \SI {##4} { \l__chemmacros_state_unit_tl } }
850 \group_end:
851 }
852 }
```

The pre-existing macros are redefined with the new definition:

```

853 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
854 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
855 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
856
857 }{ }% \ifchemmacrosmoduleloaded
858 }% AtBeginDocument
859 \ExplSyntaxOff
```

---

**File 85 l warp-chemnum.sty**

§ 194      Package **chemnum**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg chemnum chemnum is patched for use by l warp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5 {
6 \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7 \group_begin:
8 \bool_if:NTF \l__chemnum_compound_local_bool
9 { \l__chemnum_local_label_format_tl }
10 { \chemnum_get_compound_property:nn {#1} {label-format} }
11 {
12 \LWR@textcurrentfont{
13 \chemnum_get_compound_property:nn {#1} {counter-representation}
14 }
15 }
16 \group_end:
17 \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18 }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22 \group_begin:
23 \bool_if:NTF \l__chemnum_compound_local_bool
24 { \l__chemnum_local_label_format_tl }
25 { \chemnum_get_compound_property:nn {#1} {label-format} }
26 {
27 \LWR@textcurrentfont{
28 \chemnum_get_subcompound_property:nnn {#1} {#2}
29 {counter-representation}
30 }
31 }
32 \group_end:
33 }
34
35 \ExplSyntaxOff
```

---

**File 86 l warp-chkfloat.sty****§ 195 Package chkfloat**

Pkg chkfloat chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

**File 87 l warp-chngpage.sty****§ 196 Package chngpage**

(Emulates or patches code by PETER WILSON.)

Pkg chngpage chngpage is ignored.

**for HTML output:** Discard all options for l warp-chngpage:

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]  
2 \LWR@origRequirePackage{l warp-changepage}

---

**File 88 l warp-cite.sty****§ 197 Package cite**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cite cite is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep, }
3
4 \ifdef\strequal{\@biblabel}{\LWRCT@biblabel}
5 {
6 \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{#1}
9
10 \DeclareDocumentCommand\citepunct{}{\relax}
```

---

**File 89 l warp-citeref.sty****§ 198 Package **citeref****

(Emulates or patches code by BJÖRN BRIEL.)

Pkg citeeref citeeref is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{citeeref}[1999/27/05]

2 \def\cprwritetwo#1={%
3 \write\auxout{\string\citepageref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \def\citepageref#1#2{%
7 \xdef\cpr@testa{@nameuse{cpr@last@#1}}% letzte Zitatstelle
8 \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
9 \ifx\cpr@testa\cpr@testb%
10 \relax% Konsekutive identische Seitenangaben weglassen
11 \else%
12 \namedef{cpr@last@#1}{#2}%
13 \ifundefined{cpr@#1}%
14 {\namedef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}% l warp
15 {%
16 \cprwritetwo{#1}{\nameuse{cpr@#1}, % space
17 \LWR@refwithsection{\BaseJobname-autopage-#2}}%
18 }%
19 \fi
20 }%
```

---

**File 90 l warp-CJK.sty****§ 199 Package **CJK****

Pkg CJK CJK does not work with l warp unless called from ctex.

for HTML output:

```
1 \@ifpackageloaded{xeCJK}{}{%
2 \LWR@loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]
```

---

**File 91 l warp-CJKutf8.sty****§ 200 Package **CJKutf8****

Pkg CJKutf8 CJKutf8 does not work with l warp unless called from ctex.

---

**for HTML output:**

```

1 \@ifpackageloaded{xeCJK}{}{
2 \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

---

### File 92 l warp-classicthesis.sty

#### § 201 Package **classicthesis**

(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)

Pkg **classicthesis** **classicthesis** is emulated.

**for HTML output:** Discard all options for **l warp-classicthesis**:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrrtime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline
7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc} % marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}%
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}%
18 \newcommand{\tocEntry}[1]{}%
19 \DeclareRobustCommand*{\deactivateaddvspace}{}%
20 \newlength{\beforebibskip}
```

---

### File 93 l warp-cleveref.sty

#### § 202 Package **cleveref**

(Emulates or patches code by TOBY CUBITT.)

Pkg **cleveref** **cleveref** is patched for HTML, and limited MATHJAX emulation is added.

**⚠ cleveref page numbers** **cleveref** and **varioreref** are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for **\cpageref** and **\cpagerefrange**. This phrase includes **\cpagerefFor**, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See \cpagerefFor at page 773 to redefine the message which is printed for page number references.

Table 16 on page 524 shows the data structure of the label/reference system as revised by lwarp and cleveref.

For MATHJAX, each references is printed as an \eqref, without cleveref's description text. Page references are also printed as simple \eqrefs. Multiple labels in a single \cref will print as (???) in MATHJAX.

### △ multiple labels

**for HTML output:** 1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]

The following patches are applied. Print-mode versions are not required since they all come down to \ref eventually, and \ref has a print-mode version.

```
\@@@setcref {<kindofref>} {<label>}
```

\@templabel becomes the section number.

```
2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}{}%
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5 \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}{}}
6 }{
7 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8 \renewcommand*{\@@@setcref}[2]{%
9 #1{\ref{#2}}{}{}}
10 }{
11 \PackageWarningNoLine{lwarp-cleveref}{
12 Unknown version of cleveref.
13 \protect\cref\space will fail.
14 }%
15 }
16 }
```

```
\@@@setcrefrange {<text>} {<label>} {<label>}
```

```
17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18 \cref@getlabel{#2}{\@labela}%
19 \cref@getlabel{#3}{\@labelb}%
20 #1{\@labela}{\@labelb}{}{}{}%
21
22 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{%
23 \renewcommand{\@@@setcrefrange}[3]{%
24 #1{\ref{#2}}{\ref{#3}}{}{}{}%
25 }
26 }{
27 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{%
```

```

28 \renewcommand{\@@@setcrefrange}[3]{%
29 #1{\ref{#2}}{\ref{#3}}{}{}{}%
30 }
31 }{
32 \PackageWarningNoLine{lwarp-cleveref}%
33 Unknown version of cleveref.
34 \protect\crefrange\space will fail.
35 }
36 }
37 }
```

\cpagerefFor Redefinable word between “page(s)” and the page numbers.

```
38 \newcommand*{\cpagerefFor}{for}
```

\@@@setcpageref {\langle typeofref \rangle} {\langle label \rangle}, where typeofref is “page” or “pages”

```

39 \def\LWR@orig@@setcpageref#1#2{\% before v0.21
40 \cref@getpageref{#2}{\@temppage}#1{\@temppage}{}{}%
41
42 \def\LWR@orig@@setcpageref#1#2{\% as of v0.21
43 \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{}{}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@setcpageref}{%
46 \renewcommand*{\@@@setcpageref}[2]{%
47 #1{\cpagerefFor\ \cref{#2}}{}{}%
48 }
49 }{
50 \ifdefequal{\@@@setcpageref}{\LWR@orig@@setcpageref}{%
51 \renewcommand*{\@@@setcpageref}[2]{%
52 #1{\cpagerefFor\ \cref{#2}}{}{}%
53 }
54 }
55 {
56 \PackageWarningNoLine{lwarp-cleveref}%
57 Unknown version of cleveref.
58 \protect\cpageref\space will fail.
59 }
60 }
61 }

62 \def\LWR@orig@@setcpagerefrange#1#2#3{\% before v0.21
63 \cref@getpageref{#2}{\@pagea}%
64 \cref@getpageref{#3}{\@pageb}%
65 #1{\@pagea}{\@pageb}{}{}{}%
66
67 \def\LWR@orig@@setcpagerefrange#1#2#3{\% as of v0.21
68 \cpageref@getlabel{#2}{\@pagea}%
69 \cpageref@getlabel{#3}{\@pageb}%
70 #1{\@pagea}{\@pageb}{}{}{}%
71
72 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{%
73 \renewcommand*{\@@@setcpagerefrange}[3]{%
```

```

74 #1{\cpagerefFor\ \cref{#2}{\cref{#3}}{}{}{}%}
75 }
76 }{
77 \ifdefeqlual{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}%
78 \renewcommand*{\@@@setcpagerefrange}[3]{%
79 #1{\cpagerefFor\ \cref{#2}{\cref{#3}}{}{}{}%}
80 }
81 }
82 {
83 \PackageWarningNoLine{lwarp-cleveref}{%
84 Unknown version of cleveref.
85 \protect\cpagerefrange\space will fail.
86 }
87 }
88 }
```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}
```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \@ifpackageloaded{varioref}{%
100 \LWR@absorbstar{vref}
101 \LWR@absorbstar{Vref}
102 \LWR@absorbstar{vrefrange}
103 \LWR@absorbstar{Vrefrange}
104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }{}% varioref

107 \@ifclassloaded{memoir}{%
108 \AtBeginDocument{%
109 \def\sf@memsub@label{#1}#2{%
110 \protected@edef\mem@currentlabelname{#1}%
111 \sf@memsub@label{#2}}%
112 }%
113 }{}%

114 \@ifpackageloaded{subfig}{%
115 \def\sf@sub@label{#1}#2{%
116 \ifhyperrefloaded
117 \protected@edef\@currentlabelname{%
```

```
118 \expandafter\strip@period #1\relax.\relax@@@%
119 \fi
120 \sf@@sub@label{#2}
121 }{}
```

---

**File 94 l warp-clrdblp g.sty****§ 203 Package **clrdblp g****

Pkg **clrdblp g** **clrdblp g** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblp g}[2018/04/21]

---

**File 95 l warp-cmbright .sty****§ 204 Package **cmbright****

(Emulates or patches code by WALTER SCHMIDT.)

Pkg **cmbright** **cmbright** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and `\mathbold` is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
 2
 3 \LWR@infoprocessingmathjax{cmbright}

 4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
 5
 6 \begin{warpMathJax}
 7
 8 \@ifpackagewith{cmbright}{slantedGreek}
 9 {
 10 \LWR@mathjax@addgreek@u@it\*{}{}
 11 }
 12 {}
 13
 14 \LWR@mathjax@addgreek@u@up\*{up}{}
 15
 16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
 17
 18 \end{warpMathJax}

## File 96 **lwarp-cmdtrack.sty**

§ 205 Package cmdtrack

Pkg cmdtrack cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]  
2 \newcommand{\untrack}[1]{}

File 97 **lwarp-colonequals.sty**

§ 206 Package **colonequals**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

for HTML output: 1 \LWR@ProvidesPackagePass{colonequals}{[2016/05/16]}

```
2 \begin{warpMathJax}
3 \LWR@info{processingmathjax}{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\text{\scriptsize\texttt{\∶}}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\text{\scriptsize\texttt{\∷}}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\text{\scriptsize\texttt{\∶\!=\!}}}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\text{\scriptsize\texttt{\∷\!\!=\!}}}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\!\text{\scriptsize\texttt{\∶}}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\!\text{\scriptsize\texttt{\∷}}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\text{\scriptsize\texttt{\∶\!-}}}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\text{\scriptsize\texttt{\∷\!-}}}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\text{\scriptsize\texttt{\∶}}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\text{\scriptsize\texttt{\∷}}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\text{\scriptsize\texttt{\∶\!\!\approx}}}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\text{\scriptsize\texttt{\∷\!\!\approx}}}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx\!\text{\scriptsize\texttt{\∶}}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx\!\text{\scriptsize\texttt{\∷}}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\text{\scriptsize\texttt{\∶\!\!\sim}}}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\text{\scriptsize\texttt{\∷\!\!\sim}}}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim\!\text{\scriptsize\texttt{\∶}}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim\!\text{\scriptsize\texttt{\∷}}}}}
23 \end{warpMathJax}
```

---

File 98 **l warp-color.sty**

§ 207 Package **color**

Pkg color Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `l warp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```

---

File 99 **l warp-colortbl.sty**

§ 208 Package **colortbl**

Pkg colortbl `colortbl` is used as-is for print output, and emulated for HTML.

⚠ **row/cell color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

**for HTML output:** A placeholder definition is forgotten first:

```

1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following `\LWR@HTML` versions are used inside an HTML tabular.

`\columncolor` [*model*] {[*color*] [*left overhang*] [*right overhang*]}

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the tabular.

`\columncolor` is provided here to satisfy `\LWR@formatted`'s test for the existence of the print-mode macro.

```

4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8 \LWR@addtabularcellcolor%
9 }
10
11 \AtBeginDocument{\LWR@formatted{\columncolor}}}
```

`\LWR@getmynexttoken` is used for `\rowcolor` because it is used inside the data area of the tabular.

```

\rowcolor [\langle model\rangle] {\langle color\rangle} [\langle left overhang\rangle] [\langle right overhang\rangle]
12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
13 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
14 \LWR@getmynexttoken%
15 }
16
17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}

```

```

\cellcolor [\langle model\rangle] {\langle color\rangle} [\langle left overhang\rangle] [\langle right overhang\rangle]
18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
19 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
20 \LWR@addtabularcellcolor%
21 }
22
23 \AtBeginDocument{\LWR@formatted{cellcolor}}

```

\arrayrulecolor [\langle model\rangle] {\langle color\rangle}

The **HTML** version for use outside a tabular. Inside a tabular, \LWR@HTML@arrayrulecolornexttoken is used instead.

```

24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
25 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
26 }
27
28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}

```

[\langle model\rangle] {\langle color\rangle}

The **HTML** version for use inside a tabular.

```

29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
30 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
31 \LWR@getmynexttoken%
32 }
33
34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}

```

\doublerulesepcolor [\langle model\rangle] {\langle color\rangle}

The version for use outside a tabular.

```

35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{}
36
37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}

```

[\langle model\rangle] {\langle color\rangle}

The version for use inside a tabular.

```

38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
39
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}

```

For MATHJAX, use the MATHJAX package. The unused macro options are ignored.

```

41 \begin{warpMathJax}
42
43 \CustomizeMathJax{\require{colortbl}}
44 \CustomizeMathJax{\let\LWRorigcolumncolor\columncolor}
45 \CustomizeMathJax{\renewcommand{\columncolor}[2][named]{%
46 \LWRorigcolumncolor[#1]{#2}%
47 \LWRabsorbtwooptions%
48 }}%
49
50 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
51 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
52 \LWRorigrowcolor[#1]{#2}%
53 \LWRabsorbtwooptions%
54 }}%
55
56 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
57 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
58 \LWRorigcellcolor[#1]{#2}%
59 \LWRabsorbtwooptions%
60 }}%
61
62 \end{warpMathJax}
```

---

#### File 100 **l warp-continue.sty**

##### § 209 Package **continue**

Pkg **continue** **continue** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{continue}[2018/12/09]

2 \newcommand*\{flagcont}{}
3 \newcommand*\{flagend}{}
4 \newcommand*\{flagword}{}
5 \newcommand*\{preflagword}{}
6 \newcommand*\{postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop
```

---

#### File 101 **l warp-copyrightbox.sty**

##### § 210 Package **copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg **copyrightbox** **copyrightbox** is emulated for use by **l warp**.

The entire copyright box is placed inside a <div> of class **copyrightbox**.

The contents are placed inside a <div> of class `copyrightboxcontents`.

The copyright notice is placed inside a <div> of class `copyrightboxnote`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4 display: inline-flex;
5 flex-direction: column ;
6]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}(){}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}{}
```

---

#### File 102 **l warp-crop.sty**

##### § 211 Package **crop**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg **crop** **crop** is ignored.

**for HTML output:** Discard all options for **l warp-crop**:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*{\crop}[1][]{}
3 \newcommand*{\cropdef}[6][]{}
```

---

#### File 103 **l warp-ctable.sty**

##### § 212 Package **ctable**

(Emulates or patches code by WYBO DEKKER.)

Pkg **ctable** **ctable** is patched for use by **l warp**.

⚠ Misplaced alignment tab character & Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]
```

The following is in the original:

```
2 \newcommand{\LWR@HTML@ctable}[4][]{%
3 \let\@CTtaborfig \@dfltCTtaborfig
4 \let\@CTalign \@dfltCTalign
5 \let\@CTsideways \@dfltCTsideways
6 \let\@CTcontinued \empty
7 \let\@CTpos \@dfltCTpos
8 \let\@CTcaption \empty
9 \let\@CTcap \undefined
10 \let\@CTlabel \empty
11 \let\@CTbotcap \@dfltCTbotcap
12 \let\@CTstarred \@dfltCTstarred
13 \let\@CTsuper \@dfltCTsuper
14 \let\@CTnotespar \@dfltCTnotespar
15 \let\@CTdoinside \@dfltCTdoinside
16 \let\@CTbgopacity \@dfltCTbgopacity
17 \@CTframerule \@dfltCTframerule
18 \@CTcaptionskip \@dfltCTcaptionskip
19 \@CTframesep \@dfltCTframesep
20 \@CTwidth \@dfltCTwidth
21 \@CTmaxwidth \@dfltCTmaxwidth
22 \@CTmincapwidth \@dfltCTmincapwidth
23 \@CTfooterwidth \@dfltCTfooterwidth
24 \def\@CTfactual {\@dfltCTframefg}%
25 \def\@CTbactual {\@dfltCTframebg}%
26 \def\@CTbeg {\begin{\@CTsideways\@CTtaborfig\@CTstarred}}%
27 \def\@CTbegin {\@CTbeg}%
28 \def\@CTend {\end{\@CTsideways\@CTtaborfig\@CTstarred}}%
29 \setkeys{CT}{#1}%
30 \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31 \ifx\@CTcap\empty
32 \if@CTcaptionloaded\else
33 \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34 An empty cap= option prevents lot/loc entry only\MessageBreak
35 if the caption package is loaded!}
36 \fi
37 \fi
38 \if@CTinmemoir\else
39 \ifx\@CTbotcap\undefined
40 \PackageError{lwarp-ctable}{\MessageBreak
41 You can, currently, use the sidecap option only with\MessageBreak
42 memoir documents. Use topcap or botcap only}
43 {}
44 \fi
45 \fi
46 \ifdim\@CTwidth=0pt\else
47 \ifdim\@CTmaxwidth=0pt\else
48 \PackageError{lwarp-ctable}{\MessageBreak
49 You may not use the width and maxwidth options together\MessageBreak
50 Use either width or maxwidth}
51 {}
52 \fi
53 \fi
54 \ifx\@CTpos\empty
```

```

55 \ifx\@CTsideways\empty\else
56 \PackageError{lwarp-ctable}{\MessageBreak
57 You may not use the pos and sideways options together\MessageBreak
58 Rotated tables and figures are always typeset on a separate page}
59 {}
60 \fi
61 \fi
62 \ifx\@CTcaption\empty
63 \ifx\@CTlabel\empty\else
64 \PackageError{lwarp-ctable}{\MessageBreak
65 You may not label a captionless table\MessageBreak
66 Such a label can't be referenced}
67 {}
68 \fi
69 \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```

70 \@CTbegin
71 \ifx\@CTcontinued\empty\else\addtocounter{@CTtaborfig}{-1}\fi
72 \@CTalign

```

lwarp's patches begin here:

```

73 \begin{center}
74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}%
77 \convertcolorspec[named]{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle[named]{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{}{%
85 background: \LWR@colorstyle[named]{\@CTbgactual} ; %
86 }%
87]{fminipage}% lwarp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}%
94 \#4%
95 \end{tabularx}%
96 \def\@CTfootnotes{#3}%
97 \ifx#3\empty\else% append footnotes, if any
98 \begin{BlockClass}{tnotes}%
99 \#3
100 \end{BlockClass}%
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi

```

---

```

104 \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{\#1}}}}
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117 \tmark[\#1]\,\#2\par
118 }
119 \LWR@formatted{tnote}

```

---

#### File 104 **l warp-cuted.sty**

### § 213 Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg cuted cuted is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cuted}[2012/10/04]

```

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \def\oldcolsbreak#1{}

```

---

#### File 105 **l warp-cutwin.sty**

### § 214 Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

Pkg cutwin cutwin is emulated.

**for HTML output:** Discard all options for l warp-cutwin:

```
1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]
```

---

```

2 \newcommand*\{\opencutleft\}{}%
3 \newcommand*\{\opencutright\}{}%
4 \newcommand*\{\opencutcenter\}{}%
5 \newcommand*\{\cutfuzz\}{}%
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\{\windowpagestuff\}{}%
12
13 \newcommand*\{\pageinwindow\}{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22
23 \newcommand*\{\putstuffinpic\}{}%
24
25 \newcommand*\{\picinwindow\}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 106 **lwarp-dblfloatfix.sty**

§ 215 Package **dblfloatfix**

Pkg dblfloatfix dblfloatfix is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 107 **lwarp-dblfnote.sty**

§ 216 Package **dblfnote**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg dblfnote dblfnote is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowbreak{}

```

```
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}
```

---

**File 108 l warp-dcolumn.sty****§ 217 Package dcolumn**

Pkg dcolumn dcolumn is used as-is in a `\teximage`, and is emulated by the `l warp` core.

dcolumn used to be `\LWR@ProvidesPackageDrop` in prior versions of `l warp`, but is now supported for print mode.

```
1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]
```

Due to how the D column is created, cannot use `\HTMLnewcolumntype` here. An `HTML` version neutralizes the lower-level macros, leaving a c column type.

```
2 \newcommand*\LWR@HTML@DC@[3] {}
3 \LWR@formatted{DC@}
4
5 \providecommand*\DC@end{}}
6
7 \newcommand*\LWR@HTML@DC@end{}}
8 \LWR@formatted{DC@end}
```

---

**File 109 l warp-decimal.sty****§ 218 Package decimal**

(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)

Pkg decimal decimal works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.{\mbox{.}}}
4 \end{warpMathJax}
```

---

**File 110 l warp-decorule.sty****§ 219 Package decorule**

(Emulates or patches code by PETER FLYNN.)

Pkg decorule **decorule** is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]

```

2 \xpretocmd{\decorule}
3 {\begin{lateximage}*[decorule]}
4 {}
5 {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{decorule}{decorule B}}
```

---

### File 111 **l warp-diagbox.sty**

## § 220 Package **diagbox**

(Emulates or patches code by LEO LIU.)

Pkg diagbox **diagbox** is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a `\textrimage`:

```

2 \LetLtxMacro{\LWR@origdiagbox@double}{\diagbox@double}
3 \LetLtxMacro{\LWR@origdiagbox@triple}{\diagbox@triple}
4
5 \appto{\LWR@restoreorigformatting}{%
6 \LetLtxMacro{\diagbox@double}{\LWR@origdiagbox@double}%
7 \LetLtxMacro{\diagbox@triple}{\LWR@origdiagbox@triple}%
8 }
```

```

\LWR@diagbox@AB {\langle E/W \rangle} {\langle A \rangle} {\langle E/W \rangle} {\langle B \rangle}
9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro{\\\newline}{%
12 \BlockClassSingle{\diagbox#1}{\#2}%
13 \BlockClassSingle{\diagbox#3}{\#4}%
14 \endgroup%
15 \LWR@stopars%
16 }
```

  

```

\LWR@diagboxNW {\langle A \rangle} {\langle B \rangle}
17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{\#2}{W}{\#1}%
19 }
```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```

```

\diagbox@double {\langle keys\rangle} {\langle A\rangle} {\langle B\rangle}
26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \nameuse{\LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

```

```

\LWR@diagboxTNW {\langle title\rangle} {\langle A\rangle} {\langle B\rangle}
30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}%
32 \LWR@diagboxNW{#2}{#3}%
33 }

```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}%
36 \LWR@diagboxNE{#2}{#3}%
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}%
41 \BlockClassSingle{diagboxtitleS}{#1}%
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}%
47 \BlockClassSingle{diagboxtitleS}{#1}%
48 \LWR@stoppars%
49 }

```

```

\diagbox@triple {\langle keys\rangle} {\langle A\rangle} {\langle T\rangle} {\langle B\rangle}
50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \nameuse{\LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

---

**File 112 lwarf-dingbat.sty**

§ 221      Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg    dingbat    dingbat is patched for use by lwarf.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

2 \newcommand*{\LWR@dingbatsymbol}[1]{\HTMLunicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}
```

---

**File 113 l warp-DotArrow.sty**

§ 222      Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

Pkg DotArrow **DotArrow** is patched for use by **l warp**, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```
2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{\#1}{\text{\scriptsize{\texttt{\{\\unicode{x21E2}\\}}}}}}}
6 \end{warpMathJax}
```

---

**File 114 l warp-dotlessi.sty**

§ 223      Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg dotlessi **dotlessi** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **HTML \dotlessj** Use \usepackage{cmap} if \dotlessj does not appear in HTML in text mode. See section [7.4](#).

⚠ **not bold** For MATHJAX, use \boldsymbol instead of \mathbf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}
```

---

**File 115 l warp-dprogress.sty**

§ 224      Package **dprogress**

Pkg dprogress **dprogress** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 116 **l warp-draftcopy.sty**

§ 225 Package **draftcopy**

Pkg draftcopy draftcopy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```
2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}
```

---

File 117 **l warp-draftfigure.sty**

§ 226 Package **draftfigure**

Pkg draftfigure draftfigure is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]
2 \RequirePackage{xkeyval}

```
3 \define@key{draftfigure}{code}{}%
4 \define@key{draftfigure}{noframe}[true]{}%
5 \define@key{draftfigure}{filename}[true]{}%
6 \define@key{draftfigure}{content}{}{}%
7 \define@key{draftfigure}{style}[normal]{}%
8 \define@key{draftfigure}{position}[left]{}%
9 \define@key{draftfigure}{size}[normal]{}%
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}
```

---

File 118 **l warp-draftwatermark.sty**

§ 227 Package **draftwatermark**

(Emulates or patches code by SERGIO CALLEGARI.)

Pkg **draftwatermark** **draftwatermark** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}){}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}
```

---

#### File 119 **l warp-drftcite.sty**

### § 228 Package **drftcite**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **drftcite** **drftcite** is patched for use by **l warp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

2 \def@lbibitem[#1]#2{\global@\HighCite\z@
3 \item[
4 \textsuperscript{\@nameuse{DCN@#2@\extra@b@citeb}}~% l warp
5 \@biblabel{\@ifundefined{DCN@#2@\extra@b@citeb}{\@warning
6 {Reference '#2' on page \thepage\space was never cited}}{}%
7 \DC@llap{$^{\@nameuse{DCN@#2@\extra@b@citeb}}$}\ \ }%
8 \@citeverb{#2}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
9 \immediate\write\auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}
```

---

#### File 120 **l warp-easy-todo.sty**

### § 229 Package **easy-todo**

(Emulates or patches code by JUAN RADA-VILELA.)

Pkg **easy-todo** **easy-todo** is patched for use by **l warp**.

To remove the “P.” heading for HTML:

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]
```

---

\listoftodos    Modified to correct buggy use of \flushright.

```

2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

\todoii    Modified to use \textcolor instead of \color.

```

10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12 {%
13 \ifoptionfinal{\todoenable{false}}{\todoenable{true}}{%
14 }%
15 {%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17 {%
18 \refstepcounter{todos}%
19 \noindent{%
20 \todocolor{%
21 \LWR@textcurrentcolor{%
22 \normalfont\scriptsize{\bfseries{\thetodos.\#1}}%
23 }%
24 }%
25 \addcontentsline{lod}{todos}{\protect{\thetodos. }\LWR@isolate{\#2}}%
26 }%
27 {%
28 }}
```

---

File 121 **lwarf-ebook.sty**

§ 230    Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

Pkg    ebook    ebook is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{ebook}

```

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{%
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }
```

---

**File 122 l warp-econometrics.sty**

§ 231      Package **econometrics**

*(Emulates or patches code by ERIK KOLE.)*

Pkg **econometrics** **econometrics** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
```

```
43 \LWR@mathjax@addgreek@l@bfit{v}{%} lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{%} uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{#1}}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3]{%
74 \frac{\mathrm{d}^{\#1}\#2}{\mathrm{d}^{\#1}\#3}%
75 }}
76 \CustomizeMathJax{\newcommand{\pderiv}[3]{%
77 \frac{\partial^{\#1}\#2}{\partial^{\#1}\#3}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
```

---

```

98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\mathrm{sim}}}
104 \CustomizeMathJax{\newcommand{\adistr}{\mathrm{stackrel{a}{distr}}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\mathrm{diff}_{\mathrm{rf}}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\mathrm{diff}_{\mathrm{rb}}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\mathrm{stackrel{p}{\longrightarrow}}}}
114 \CustomizeMathJax{\newcommand{\dto}{\mathrm{stackrel{d}{\longrightarrow}}}}
115 \CustomizeMathJax{\newcommand{\wto}{\mathrm{stackrel{w}{\longrightarrow}}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\mathrm{bm}{\cal I}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\mathrm{bm}{\cal H}}}
119 \CustomizeMathJax{\newcommand{\bcldot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\mathrm{bm}{\imath}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\mathrm{eu}}}
126 \CustomizeMathJax{\newcommand{\mply}{\mathrm{cdot}}}
127 \CustomizeMathJax{\newcommand{\rW}{\mathrm{ensuremath}{\mathit{W}}}}
128 \end{warpMathJax}

```

---

### File 123 lwarf-ed.sty

§ 232 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg ed ed is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. todolist fails with the hide option, as does \edexplanation.
2. \edstubURI is actually \edstuURI.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%

```

---

```

6 \def\@test{#1}%
7 \begin{center}%
8 \huge%
9 \textcolor{red}{%}
10 #1 is only a provisional stub\\Large
11 the Office document
12 \ifx\ed@stubURI\empty\else\LWR@href{\ed@stubURI}{#2}\fi\
13 contains more text\which will be merged for the final document%
14 }%
15 \end{center}%
16 \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

#### File 124 **lwarp-ellipsis.sty**

§ 233      Package **ellipsis**

*(Emulates or patches code by PETER J. HESLIN.)*

Pkg **ellipsis** **ellipsis** is emulated.

```

1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\textellipsis\,}

```

---

#### File 125 **lwarp-embrac.sty**

§ 234      Package **embrac**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg **embrac** **embrac** is patched for HTML and used as-is for print.

**for HTML output:** 1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]

```

2 \ExplSyntaxOn
3 \RenewDocumentCommand{\embrac_kern:n}{m}{}
4 \ExplSyntaxOff

5 \LetLtxMacro{\LWR@orig@HTML@emph}{\LWR@HTML@emph}
6 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
7
8 \LetLtxMacro{\LWR@orig@HTML@textit}{\LWR@HTML@textit}
9 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
10
11 \LetLtxMacro{\LWR@orig@HTML@textsl}{\LWR@HTML@textsl}

```

---

```

12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \ifxetexorluatex
15 \LetLtxMacro{\LWR@orig@HTML@textsi}{\LWR@HTML@textsi}
16 \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
17 \LWR@orig@HTML@textsi{#2}}
18 \fi
19
20 \AtBeginDocument{
21 \LWR@formatted{emph}
22 \LWR@formatted{textit}
23 \LWR@formatted{textsl}
24 \ifxetexorluatex
25 \LWR@formatted{textsi}
26 \fi
27 }
28
29 \newcommand{\LWR@HTML@EmbracOff}{}
30 \LWR@formatted{EmbracOff}
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}

```

---

#### File 126 **l warp-emptypage.sty**

#### § 235 Package **emptypage**

Pkg **emptypage** **emptypage** is ignored.

**for HTML output:** Discard all options for **l warp-emptypage**:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

#### File 127 **l warp-endfloat.sty**

#### § 236 Package **endfloat**

Pkg **endfloat** **endfloat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl(){}
8 \newcommand*\thepostfig(){}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}

```

```
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats(){}
13 \newcommand*\efloatseparator(){}
14 \def\efloattype{}
15 \providecommand\efloatheading[1){}
16 \providecommand\efloatpreamble={}
17 \providecommand\efloatpostamble={}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}
```

---

File 128 **lwarf-endheads.sty**

§ 237 Package **endheads**

Pkg endheads **endheads** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

```
2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changetitlesname}[1]{}
5 \newcommand{\changetitlesheader}[1]{}
6 \newcommand{\changetitlescontentsname}[1]{}
7 \newcommand{\changechaptertitlesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontents \notesincontentsfalse
10 \newcommand{\notesincontents}{\notesincontentstrue}
11 \newif\ifendnoteheaders \endnoteheadersfalse
12 \newcommand{\setupendnoteheaders}{%
13 \endnoteheaderstrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19 \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22 \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}
```

---

File 129 **l warp-endnotes.sty**

§ 238 Package **endnotes**

*(Emulates or patches code by JOHN LAVAGNINO.)*

Pkg endnotes Patched for HTML.

**table of contents** To place the endnotes in the toc, use:

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*\notesname{Endnotes} % optional
```

**HTML page** To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

⚠ **\endnotemark** If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.  
**numbering**

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{endnotes}

2 \def\enoteformat{%
3 \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 \llap{
6 \makeenmark
7 }
8 }

9 \def\LWR@HTML@@makeenmark{\hbox{\LWR@htmlspan{sup}{\normalfont\theenmark}}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{\@makeenmark}
```

For MATHJAX:

```
13 \begin{warpMathJax}
14 \def\endnotename{endnote}
15 \appto{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRendnote}{\theendnote}}
16 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWRendnote}{\endnotename}}
17 \CustomizeMathJax{\def{\LWRendnote{1}}}
18 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\{}^{\mathrm{#1}}\}}
19 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{\{}^{\mathrm{#1}}\}}
20 \end{warpMathJax}
```

---

**File 130 l warp-engtlc.sty**

§ 239      Package **engtlc**

*(Emulates or patches code by CLAUDIO FIANDRINO.)*

Pkg engtlc engtlc is patched for use by l warp. MATHJAX is emulated.

⚠ For MATHJAX, \signt, \signf, \signn, and \signz do not force letter case as they do in SVG math.

**for HTML output:** 1 \LWR@ProvidesPackagePass{engtlc}[2012/12/18]

```
2 \newcommand{\LWR@HTML@finees}{%
3 \begin{BlockClass}[text-align:right]{exerend}%
4 \HTMLunicode{220E}%
5 \end{BlockClass}%
6 }
7 \LWR@formatted{finees}
8
9 \newcommand{\LWR@HTML@exerend}{\finees}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engtlc}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
```

```
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV }}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V }}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV }}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V }}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{MiB}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
```

```
95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBbytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBbytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsubit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109 \hspace{.25cm}\Longrightarrow\hspace{.25cm}}}
110 }
111 \CustomizeMathJax{\newcommand{\varianzaramore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114 #1\mathopen{}\left\lbracet\right\rbrace\mathclose{}}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{\left.\right|^{#1}}}
121 \CustomizeMathJax{\newcommand{\versore}{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}{\cos\left(2\pi#1\right)}}
124 \CustomizeMathJax{\newcommand{\seno}{\sin\left(2\pi#1\right)}}
125 \CustomizeMathJax{\newcommand{\energia}{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left.\right|^{\left.\right.^{#2}}}}
127 \CustomizeMathJax{\newcommand{\modulo}{\left.\right|\left.\right.^{\left.\right.^{#1}}}}
128 \CustomizeMathJax{\newcommand{\indB}{\mathopen{}\left.\right.^{\mathrm{dB}}\mathclose{}}}
129 \CustomizeMathJax{\newcommand{\mathopen{}\left.\right.^{\mathrm{dB}}\mathclose{}}{\mathopen{}\left.\right.^{\mathrm{dB}}\mathclose{}}}}
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\right.^{#1}\left.\right.^{#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}{\max{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}{\min{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}^{#2}}}
135 \CustomizeMathJax{\newcommand{\analitic}{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{\mathopen{}\left.\right.^{}}\mathopen{}\left.\right.^{\mathrm{d}}\mathclose{}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left.#1\right.^{}}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\mathcal{V}\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\mathcal{I}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\mathcal{V}^{#1}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\mathcal{I}^{#1}}}
146 \CustomizeMathJax{\newcommand{\gammmain}{\Gamma^{#1}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\mathcal{k}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
```

```
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1][P_{\mathrm{#1}}]}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{#1}}]}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{#1}}]}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{#1}}]}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{#1}}]}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{#1}}]}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{#1}}]}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1]{Z_{\mathrm{#1}}}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{z_{\mathrm{#1}}}}
167 \CustomizeMathJax{\newcommand{\yinf}[1]{Y_{\mathrm{#1}}}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{y_{\mathrm{#1}}}}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoefas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campohfas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}[1]{\#1(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{\#1(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\#1(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\#1(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{, , ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\text{\textbackslash}, \text{\textbackslash}, \text{\textbackslash}}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
```

---

```

205 \CustomizeMathJax{\let\analytic\analytic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltaain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammaint\gammatensin}
211 \CustomizeMathJax{\let\Cgammaint\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disspow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoefas}
223 \CustomizeMathJax{\let\phasorHfiled\campohfas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 131 **lwarf-enotez.sty**

§ 240 Package **enotez**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg enotez enotez is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by lwarf, so it is forced on for enotez:

```

2 \ExplSyntaxOn
3 \AtBeginDocument{
4 \bool_set_true:N \l__enotez_hyperref_bool
5 \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }

```

Do not move or \hbox the \hypertarget:

```

7 % typeset the actual mark:
8 % #1: id
9 % #2: mark
10 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
11 {
12 \bool_if:NTF \l__enotez_hyperfootnotes_bool
13 {
14 \enotezwritemark { \hyperlink {enz.#1} { \enmarkstyle #2 } }

```

```

15 \bool_if:NT \l__enotez_hyperbackref_bool
16 {
17% \box_move_up:nn {1em} {
18% \hbox:n {
19% \hypertarget{enz.\#1.backref} { }
20% }
21% }
22 }
23 }
24 { \enotezwritemark { \enmarkstyle #2 } }
25 }
26 \cs_generate_variant:Nn \enotez_write_mark:nn {x}

```

Do not move or \hbox the \hypertarget:

```

27 \cs_gset_protected:Npn \enotez_write_list_number:n #1
28 {
29 \bool_if:NT \l__enotez_hyperfootnotes_bool
30 {
31% \box_move_up:nn {1em} { \hbox:n {
32% \hypertarget{enz.\#1} { }
33% } }
34 }
35 \tl_use:N \l__enotez_list_number_format_tl
36 \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
37 {
38 \bool_if:nTF
39 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
40 {
41 \exp_args:Nnx
42 \hyperlink{enz.\#1.backref}
43 { \exp_not:V \l__enotez_endnote_mark_tl }
44 }
45 { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
46 }
47 {
48 \bool_if:nTF
49 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
50 {
51 \exp_args:Nnx
52 \hyperlink{enz.\#1.backref}
53 { \exp_not:V \l__enotez_endnote_mark_tl }
54 }
55 { \tl_use:N \l__enotez_endnote_mark_tl }
56 }
57 }

```

Do not move the label to the left:

```

58 \DeclareTemplateCode {enotez-list} {paragraph} {1}
59 {
60 heading = \enotez_list_heading:n ,
61 format = \l__enotez_list_format_tl ,
62 number = \enotez_list_number:n ,
63 number-format = \l__enotez_list_number_format_tl ,

```

```

64 notes-sep = \l__enotez_list_notes_sep_dim
65 }
66 {
67 \AssignTemplateKeys
68 \enotez_set_totoc:
69 \enotez_list_heading:n { \l__enotez_list_name_tl }
70 \enotez_list_preamble:
71 \enotez_build_print_list:nnnn {#1}
72 {}
73 {
74 \par\noindent
75 \group_begin:
76 \tl_use:N \l__enotez_list_format_tl
77 % \hbox_overlap_left:n
78 % {
79 \enotez_list_number:n
80 { \enotez_write_list_number:n {##1} }
81 \tl_use:N \c_space_tl
82 %
83 }
84 % \cs_set:cpn {@currentlabel}
85 % { \p@endnote \l__enotez_endnote_mark_tl }
86 \tl_use:N \g__enotez_endnote_text_tl
87 \par
88 \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
89 { \addvspace { \l__enotez_list_notes_sep_dim } }
90 \group_end:
91 {}
92 \enotez_list_postamble:
93 }
94
95 \ExplSyntaxOff

```

For MATHJAX:

```

96 \begin{warpMathJax}
97 \def\endnotename{\endnote}
98 \appto{\LWR@syncnotenumbers}{\LWR@syncnotenumber{\LWRendnote}{\theendnote}}
99 \appto{\LWR@syncnotenames}{\LWR@syncnotename{\LWRendnote}{\endnotename}}
100 \CustomizeMathJax{\def{\LWRendnote{1}}}
101 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\{}^{\mathrm{#1}}\}}
102 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{\{}^{\mathrm{#1}}\}}
103 \end{warpMathJax}

```

File 132 **lwarp-enumerate.sty**

§ 241 Package **enumerate**

Pkg **enumerate** **enumerate** is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the

package may still remain, for example in a local vs. distribution directory, but it is now supported directly by `l warp` and thus must no longer be dropped.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

### File 133 `l warp-enumitem.sty`

#### § 242 Package **enumitem**

(Emulates or patches code by JAVIER BEZOS.)

Pkg `enumitem` `enumitem` is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```
\newlist {⟨name⟩} {⟨type⟩} {⟨maxdepth⟩}
\renewlist {⟨name⟩} {⟨type⟩} {⟨maxdepth⟩}
```

For `enumitem` lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```
2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*{\newlist}[3]{%
5 \LWR@enumitem@orignewlist[#1]{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{\LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{\LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

---

### File 134 `l warp-epigraph.sty`

#### § 243 Package **epigraph**

(Emulates or patches code by PETER WILSON.)

Pkg `epigraph` `epigraph` is emulated for HTML, and used as-is for print output.

Use css to format epigraphs.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

```
2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4 \begin{BlockClass}{qitem}%
5 #1%
6 \LWR@stoppars%
```

```

7 \ifbool{FormatWP}%
8 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9 {\begin{BlockClass}{epigraphsource}}%
10 #2%
11 \end{BlockClass}%
12 \end{BlockClass}%
13 }%
14 \LWR@formatted{qitem}

```

**epigraph:** Added ARIA role.

```

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}%
16 {%
17 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}(note){epigraph}%
18 \qitem{#1}{#2}%
19 \end{LWR@BlockClassWP}%
20 }%
21 \LWR@formatted{epigraph}%
22
23 \DeclareDocumentEnvironment{\LWR@HTML@epigraphs}{}
24 {\LWR@BlockClassWP{\LWR@print@mbox{text-align:right}}{}(note){epigraph}}%
25 {\end{LWR@BlockClassWP}%
26 \LWR@formattedenv{epigraphs}}

```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}%
28 \renewcommand{\dropchapter}[1]{}%
29 \renewcommand*{\undodrop}{}

```

### File 135 lwarf-epsf.sty

§ 244 Package **epsf**

(Emulates or patches code by TOM ROKICKI.)

Pkg epsf **epsf** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{epsf} not date given

```

2 \xpretocmd{\epsfsetgraph}%
3 {\begin{lateximage}}%
4 {}%
5 {\LWR@patcherror{lwarf-epsf}{epsfsetgraph-begin}}%
6
7 \xapptocmd{\epsfsetgraph}%
8 {\end{lateximage}}%
9 {}%
10 {\LWR@patcherror{lwarf-epsf}{epsfsetgraph-end}}%

```

---

File 136 **l warp-epsfig.sty**

§ 245 Package **epsfig**

Pkg epsfig **epsfig** is emulated for use by **l warp**.

⚠ Only the LATEX2e syntax is emulated.

for HTML output: 1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```
2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5 \xdef\LWR@epsfig@filename{\#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9 \xdef\LWR@epsfig@filename{\#1}%
10 }
11
12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}{}[]
```

The captured filename is used as the argument to `\includegraphics`:

```
15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[\#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}
17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[\#1]{\LWR@epsfig@filename}}
19 \LWR@formatted{psfig}
```

---

File 137 **l warp-epstopdf.sty**

§ 246 Package **epstopdf**

Pkg epstopdf Previous versions of **l warp** had a nullified version, but now **epstopdf-base** is supported. **l warp-epstopdf** becomes a placeholder to overwrite previous versions.

See package **epstopdf-base** for details.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

---

File 138 **l warp-epstopdf-base.sty**

§ 247 Package **epstopdf-base**

Pkg epstopdf-base

⚠ convert to .svg Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **l warpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]

Redefine to remember the image filename, replacing .pdf with .svg. Use the epstopdf print version inside a `lateximage`.

```
2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3 \edef\tempone{\#3}%
4 \StrSubstitute{\tempone}{.pdf}{.svg}[\tempone]%
5 \StrSubstitute{\tempone}{.PDF}{.SVG}[\tempone]%
6 \xdef\parsedfilename{\tempone}%
7 }%
8 %
9 \LWR@formatted{ETE@OrgGin@setfile}
```

\includegraphics in HTML mode redefines \Gin@setfile to be \LWR@HTML@Gin@setfile, which is now redirected to epstopdf's version:

```
10 \renewcommand*{\LWR@HTML@Gin@setfile}[3]{%
11 \ETE@Gin@setfile{\#1}{\#2}{\#3}%
12 }
```

Allow .eps images to be found if a suffix is not provided:

```
13 \AtBeginDocument{%
14 \DeclareGraphicsExtensions{%
15 .eps,.EPS,.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
16 }%
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }
```

Likewise when inside a `lateximage`:

```
20 \appto{\LWR@restoreorigformatting}{%
21 \DeclareGraphicsExtensions{%
22 .eps,.EPS,.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
23 }%
24 }
```

---

File 139 **l warp-eqlist.sty**

§ 248 Package **eqlist**

Pkg eqlist **eqlist** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```
2 \newenvironment{eqlist}[1][] {\description}{\enddescription}
3 \newenvironment{eqlist*}[1][] {\description}{\enddescription}
4 \newenvironment{Eqlist}[2][] {\description}{\enddescription}
5 \newenvironment{Eqlist*}[2][] {\description}{\enddescription}
6 \newcommand*\longitem[1][] {\item[#1]}
7 \newcommand*\eqlistinit(){}
8 \newcommand*\eqliststarinit(){}
9 \newcommand*\eqlistinitpar(){}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

File 140 **l warp-eqparbox.sty**

§ 249 Package **eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

Pkg eqparbox **eqparbox** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```
2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3 {%
4 \minipagefullwidth%
5 \parbox[#1][#2][#3]{\linewidth}{#5}%
6 }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11 \makebox[#2]{#3}%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16 \framebox[#2]{#3}%
17 }
18 \LWR@formatted{eqframebox}
19

```

---

```

20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{O{t} O{} O{t} m}
21 {%
22 \begingroup%
23 \minipagefullwidth%
24 \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27 \endminipage%
28 \endgroup%
29 }
30
31 \newcommand*{\LWR@HTML@eqboxwidth}[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*{\LWR@HTML@eqsetminwidth}[2]{}
35 \newcommand*{\LWR@HTML@eqsetmaxwidth}[2]{}
36
37 \newcommand*{\LWR@HTML@eqsetminwidthto}[2]{}
38 \newcommand*{\LWR@HTML@eqsetmaxwidthto}[2]{}

```

---

File 141 **l warp-errata.sty**

§ 250 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg errata errata is patched for use by l warp.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the l warp version will have to be updated.

for HTML output Macros are being defined with the math dollar, so enable the HTML version during package loading:

1 \StartDefiningMath

Now load the package:

2 \LWR@ProvidesPackagePass{errata}[2006/11/12]

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4 {$_a^{\arabic{erratum}}$}
5 % {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6 {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7 {}
8 {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11 {$_d^{\arabic{erratum}}$}
12 % {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}

```

```

13 {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14 {}
15 {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18 {$_r^{\arabic{erratum}}$}
19 % {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20 {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21 {}
22 {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25 {$_a$}
26 % {\inlinemathother$_a$\inlinemathnormal}
27 {\textsubscript{a}}
28 {}
29 {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32 {$_d^{\@thefnmark}$}
33 % {\inlinemathother$_d^{\@thefnmark} $\inlinemathnormal}
34 {\textsubscript{d}@thefnmark}
35 {}
36 {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39 {$_r^{\@thefnmark}$}
40 % {\inlinemathother$_r^{\@thefnmark} $\inlinemathnormal}
41 {\textsubscript{r}@thefnmark}
42 {}
43 {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
45 \StopDefiningMath
```

#### File 142 **lwarf-eso-pic.sty**

§ 251 Package **eso-pic**

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg eso-pic **eso-pic** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```

2 \newcommand*{\LenToUnit}{}%
3 \newcommand{\AtPageUpperLeft}[1]{}
```

---

```

4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*{\ClearShipoutPictureBG}{}{}
16 \newcommand*{\ClearShipoutPicture}{}{}
17 \newcommand*{\ClearShipoutPictureFG}{}{}
18 \newcommand{\gridSetup}[6][]{}

```

---

### File 143 **l warp-esvect.sty**

#### § 252 Package **esvect**

*(Emulates or patches code by EDDIE SAUDRAIS.)*

Pkg esvect esvect is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{esvect}% no date given

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWResvectvv}[1]{\overrightarrow{\#1}}}
4 \CustomizeMathJax{\newcommand{\LWResvectvvstar}[2]{\overrightarrow{\#1}\!_!_{\#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWResvectvvstar\!\LWResvectvv}}
6 \end{warpMathJax}

```

---

### File 144 **l warp-etoc.sty**

#### § 253 Package **etoc**

Pkg etoc etoc is ignored. All commands are nullified.

⚠ **\tableofcontents with \ref** The etoc package uses a non-standard syntax which looks ahead after a \tableofcontents for a following \ref. These \refs appear in the HTML result unless they are removed. Where a \tableofcontents is followed by \ref, and perhaps also \label as well, enclose all of them inside \warpprintonly:

```
\warpprintonly{\tableofcontents \ref{toc:abc} \label{toc:def}}
```

or place all code related to a local \tableofcontents inside a warpprint environment.

⚠ **home page** Be sure to keep the initial \tableofcontents on the home page, perhaps in its own

\warpHTMLonly macro or warpHTML environment.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

```
2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthelinkname \@empty
8 \let\etocthelinknumber \@empty
9 \let\etocthelinkpage \@empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*\{\etocname} {}
12 \DeclareRobustCommand*\{\etocnumber}{}
13 \DeclareRobustCommand*\{\etocpage} {}
14 \DeclareRobustCommand*\{\etoclink} {\@firstofone}
15 \DeclareRobustCommand*\{\etocifnumbered}{\@firstoftwo}
16 \DeclareRobustCommand*\{\etociffirst}{\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty{\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etoctableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]({})
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocsepone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocsepthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusonenleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etococlineleaders
48 {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
```

```
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcoll{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][]{}
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnersrightsep{2em}
65 \def\etocoprule{\hrule}
66 \def\etoclefrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etoclefrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][]{}
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][]{}
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etoreportstyle\etocbookstyle
88 \let\etoreportstylenomarks\etocbookstylenomarks
89 \def\etocmemortoctotocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]({})
96 \newcommand*\etocmarkbothonuc[1]({})
97 \newcommand\etoc tocstyle[3][section]({})
98 \newcommand\etoc tocstylewithmarks[4][section]({})
99 \newcommand\etoc tocstylewithmarksnuoc[4][section]({})
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]({})
102 \def\etocdepthtag #1{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocbeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
```

---

```

108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etocclines {}
114 \let\etocaftertohook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}

```

---

File 145 **l warp-eurosym.sty**

§ 254 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

Pkg eurosym eurosym is patched for use by l warp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

2 \renewrobustcmd\official euro{\HTMLentity{euro}}
3 \let\geneuro\official
4 \let\genuronarrow\official
5 \let\genuwidetilde\official
6 \let\eurowide\official
7 \renewrobustcmd\europbars{}
8 \renewrobustcmd\europbarsnarrow{}
9 \renewrobustcmd\europbarswide{}

```

---

File 146 **l warp-everypage.sty**

§ 255 Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg everypage everypage is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}

```

---

File 147 **l warp-everyshi.sty**

§ 256 Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg everyshi ignored.

for HTML output Discard all options for l warp-everyshi:

```
1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout[1]{}%
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout[1]{}%
```

---

#### File 148 **l warp-extarrows.sty**

##### § 257 Package **extarrows**

(Emulates or patches code by HUYNH KY ANH.)

Pkg extarrows extarrows is used as-is for SVG math, and emulated for MATHJAX.

for HTML output 1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow[10,10]{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow[10,10]{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLongleftrightarrow[10,10]{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow[10,10]{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow[10,10]{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightarrow[10,10]{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}
```

---

#### File 149 **l warp-extremarks.sty**

##### § 258 Package **extremarks**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg extremarks extremarks is ignored.

for HTML output Discard all options for l warp-extremarks:

```
1 \LWR@ProvidesPackageDrop{extremarks}[2019/01/31]

2 \newcommand*\extremarks[2]{}%
3 \newcommand*\firstleftxmark{}%
4 \newcommand*\lastleftxmark{}%
5 \newcommand*\firstrightxmark{}%
6 \newcommand*\lastrightxmark{}%
```

---

```

7 \newcommand*\{firstxmark}{}
8 \newcommand*\{lastxmark}{}
9 \newcommand*\{topxmark}{}
10 \newcommand*\{topleftxmark}{}
11 \newcommand*\{toprightxmark}{}
12 \newcommand*\{firstleftmark}{}
13 \newcommand*\{lastrightmark}{}
14 \newcommand*\{firstrightmark}{}
15 \newcommand*\{lastleftmark}{}

```

---

File 150 **l warp-fancybox.sty**

§ 259 Package **fancybox**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg **fancybox** **fancybox** is supported with some patches.

**framed equation example** **fancybox**'s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `\latexitimage`, which is done by adding `\latexitimage` at the very start of `FramedEqn`'s beginning code, and `\endlatexitimage` at the very end of the ending code. Unfortunately, the `HTML alt` attribute is not used here.

```

\newenvironment{FramedEqn}
{
\latexitimage% NEW
\setlength{\fboxsep}{15pt}
... }{...
[\fbox{\TheSbox}]
\endlatexitimage% NEW
}
```

**framing alternatives** `\fbox` works with **fancybox**. Also see **l warp**'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

**framed table example** The **fancybox** documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with **l warp**, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some `HTML` formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

**⚠️ framed verbatim** **l warp** does not support the `verbatim` environment inside a `span`, `box`, or **fancybox**'s

\Sbox, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
 \VerbatimEnvironment
 \fminipage{#1}
 \begin{Verbatim}
}{%
 \end{Verbatim}
 \endfminipage
}
```

`framed \VerbBox` `fancybox`'s `\VerbBox` may be used inside `\fbox`.

`indented alignment` `\LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what `pdftotext` detects. Some lines may be off slightly in their left edge.

`fancybox, fancyvrb` If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```
\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

1 `\LWR@ProvidesPackagePass{fancybox}[2010/05/15]`

After the preamble is loaded, after any patches to `Verbatim`:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

`\VerbatimFootnotes` Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let@\footnotetext\V@footnotetext%
6 \let\LWR@footnotetext\V@footnotetext% lwarp
7 }
```

`\V@footnotetext` Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@footnotetext`.

```
8 \def\V@footnotetext{%
9 \LWR@traceinfo{\V@footnotetext}%
```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
10 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
11 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
12 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
13 \protected@edef@\currentlabel{%
14 \csname p@footnote\endcsname\@thefnmark%
15 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a \teximage:

```
16 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a \teximage:

```
17 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Append the footnote to the list:

```
18 \@makefnlist{}
```

The footnote text will follow after \V@@@footnotetext has completed.

```
19 \bgroup%
20 \aftergroup\V@@@footnotetext%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
21 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```
22 \ignorespaces%
23 }%
```

\V@@@footnotetext

```
24 \def\V@@@footnotetext{%
25 \LWR@origtilde\LWR@orignewline%
26 \LWR@htmlltagc{/}\LWR@tagregularparagraph}\LWR@orignewline%
27 \strut\egroup%
28 }%
```

```
29 }% AfterEndPreamble
```

```
30 \renewcommand*\@shadowbox}[1]{%
31 \ifbool{FormatWP}{%
32 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
33 {\InlineClass{shadowbox}{#1}}%
34 }%
35 %
36 \renewcommand*\@doublebox}[1]{%
37 \ifbool{FormatWP}{%
38 {\InlineClass[border:1px double black]{doublebox}{#1}}%
39 {\InlineClass{doublebox}{#1}}%
```

```

40 }
41
42 \renewcommand*{\ovalbox}[2]{%
43 \ifbool{FormatWP}{%
44 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}}{%
45 {%
46 \ifthenelse{\isequivalentto{#1}{\thinlines}}{%
47 {\InlineClass{ovalbox}{#2}}{%
48 {\InlineClass{Ovalbox}{#2}}{%
49 }{%
50 }

```

Convert minipages, parboxes, and lists into linear text using the `LWR@nestspan` environment:

```

51 \let\LWR@origSbox\Sbox
52
53 \def\Sbox{\LWR@origSbox\LWR@nestspan}
54
55
56 \let\LWR@origendSbox\endSbox
57
58 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}

```

`Beqnarray` is adapted for `MATHJAX` or enclosed inside a `lateximage`:

```

59 \RenewEnviron{Beqnarray}{%
60 {\LWR@eqnarrayfactor}{%
61 \csgpreto{Beqnarray*}{\boolfalse{LWR@numbereqnarray}}}

```

`\GenericCaption` is enclosed in an `HTML` block:

```

63 \renewcommand{\GenericCaption}[1]{%
64 \LWR@figcaption{%
65 \LWR@isolate{#1}}{%
66 \endLWR@figcaption}}
67 }

```

`Btrivlist` is enclosed in an `HTML` block. This is a tabular, and does not use `\item`.

```

\trivlist {\langle l/c/r\rangle} [\langle t/c/b\rangle]
68 \RenewDocumentEnvironment{Btrivlist}{m o}
69 {%
70 \LWR@stoppars%
71 \begin{BlockClass}{Btrivlist}%
72 \tabular{#1}%
73 }
74 {%
75 \endtabular%
76 \end{BlockClass}%
77 \LWR@startpars%
78 }

```

`Btrivlist` is also neutralized when used inside a span:

```
79 \AtBeginEnvironment{LWR@nestspan}{%
80 \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
81 }
```

`lwarp`'s handling of `\item` is patched to accept `fancybox`'s optional arguments:

```
82 \let\LWRFB@origitemizeitem\LWR@itemizeitem
83 \let\LWRFB@origdescitem\LWR@descitem
84
85 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
86 \IfValueTF{#2}{%
87 \LWRFB@origitemizeitem[#2]%
88 }{%
89 \LWRFB@origitemizeitem%
90 }%
91 }
92
93 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
94 \IfValueTF{#2}{%
95 \LWRFB@origdescitem[#2]\sim%
96 }{%
97 \LWRFB@origdescitem%
98 }%
99 }

100 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
101 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
102 \LWR@origitem%
103 }
```

The various boxed lists become regular lists:

```
104 \renewenvironment{Bitemize}[1][]{\begin{itemize}}{\end{itemize}}
105 \renewenvironment{Benumerate}[1][]{\begin{enumerate}}{\end{enumerate}}
106 \renewenvironment{Bdescription}[1][]{\begin{description}}{\end{description}}
```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```
107 \RenewDocumentCommand{\boxput}{s d() m m}{%
108 \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
109 }
```

Neutralized commands:

```
110 \RenewDocumentCommand{\fancypage}{s d() m}{}%
111 \RenewDocumentCommand{\thisfancypage}{s d() m}{}%
112
113 \RenewDocumentCommand{\fancypage}{m m}{}%
114 \RenewDocumentCommand{\thisfancypage}{m m}{}%
```

```

115
116 \def\LandScape#1{}
117 \def\endLandScape{}
118 \def\@Landscape#1#2#3{}
119 \def\endLandscape{}

```

Low-level patches for `\UseVerbatim` and friends:

```

120 \let\LWRFB@\UseVerbatim\UseVerbatim
121 \renewcommand*\UseVerbatim[1]{%
122 \LWR@atbeginverbatim{Verbatim}%
123 \LWRFB@\UseVerbatim{#1}%
124 \LWR@afterendverbatim%
125 }
126
127 \let\LWRFB@\LUseVerbatim\LUseVerbatim
128
129 \renewcommand*\LUseVerbatim[1]{%
130 \LWR@atbeginverbatim{LVerbatim}%
131 \noindent%
132 \LWRFB@\LUseVerbatim{#1}%
133 \LWR@afterendverbatim%
134 }
135
136 \def\@BUseVerbatim[#1]#2{%
137 \LWR@atbeginverbatim{BVerbatim}%
138 \LWRFB@\UseVerbatim{#2}%
139 \LWR@afterendverbatim%
140 }

```

### File 151 **l warp-fancyhdr.sty**

#### § 260 Package **fancyhdr**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg `fancyhdr` `fancyhdr` is ignored.

**for HTML output:** Discard all options for `l warp-fancyhdr`:

```

1 \LWR@ProvidesPackageDrop[fancyhdr][2021/01/04]

2 \newcommand*\fancyhead[2][]{}
3 \newcommand*\fancyfoot[2][]{}
4 \newcommand*\fancyhf[2][]{}
5
6 \newcommand*\lhead[2][]{}
7 \newcommand*\chead[2][]{}
8 \newcommand*\rhead[2][]{}
9 \newcommand*\lfoot[2][]{}
10 \newcommand*\cfoot[2][]{}
11 \newcommand*\rfoot[2][]{}

```

---

```

12 \newcommand*\{\headrulewidth\}{}%
13 \newcommand*\{\footrulewidth\}{}%
14 \providecommand{\headruleskip}{0pt}%
15 \providecommand{\footruleskip}{0pt}%
16 \newcommand{\plainheadrulewidth}{0pt}%
17 \newcommand{\plainfootrulewidth}{0pt}%
18 \def\fancyplain#1#2{\#1}%
19 \newcommand*\{\headrule\}{}%
20 \newcommand*\{\footrule\}{}%
21 \newlength{\headwidth}%
22 \newcommand*\{\fancycenter}[1][1em]{}%
23 \newcommand*\{\fancyheadoffset}[2]{}{}%
24 \newcommand*\{\fancyfootoffset}[2]{}{}%
25 \newcommand*\{\fancyhoffset}[2]{}{}%
26 \newcommand{\fancyheadinit}[1]{}%
27 \newcommand{\fancyfootinit}[1]{}%
28 \newcommand{\fancyhinit}[1]{}%
29 \newcommand*\{\iffloatpage}[2]{\#2}%
30 \newcommand*\{\ifftopfloat}[2]{\#2}%
31 \newcommand*\{\iffbotfloat}[2]{\#2}%
32 \newcommand*\{\iffootnote}[2]{\#2}%
33 %
34 \newcommand{\fancypagestyle}[1]{%
35 \if@ifnextchar[\{\f@nch@pagestyle{\#1}\}{\f@nch@pagestyle{\#1}[]}%
36 }%
37 \long\def\f@nch@pagestyle#1[#2]{#3}%

```

---

### File 152 lwarf-fancypar.sty

## § 261 Package **fancypar**

(Emulates or patches code by GONZALO MEDINA.)

Pkg **fancypar** **fancypar** is used as-is for print output, and emulated for HTML.

⚠ **css classes** \NotebookPar and related are used as-is inside a `\teximage`, but for HTML these are emulated as a `<div>` of class `NotebookPar`, etc. For HTML, the package options and the macro optional arguments are ignored. The user must provide custom css for each if visual effects are required. See section [7.7](#).

⚠ **custom styles** If using a custom paragraph style, such as `\MyStylePar` from the documentation, use the following to generate an HTML `<div>` of class `MyStylePar`:

```

... (existing definition of \MyStylePar, print version) ...
\begin{warpHTML}
\AddFancyparClass{MyStyle}
\end{warpHTML}

```

`\MyStylePar` is then modified to emulate HTML. An optional argument is allowed, which is ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancypar}[2019/01/18]

---

```

2 \begin{warpHTML}
3 \makeatletter
4
5 \newcommand{\LWR@fancypar}[2]{%
6 \begin{BlockClass}{#1Par}
7 #2
8 \end{BlockClass}
9 }
10
11 \newcommand{\LWR@HTML@NotebookPar}[2][]{{\LWR@fancypar{Notebook}{#2}}}
12 \LWR@formatted{NotebookPar}
13
14 \newcommand{\LWR@HTML@ZebraPar}[2][]{{\LWR@fancypar{Zebra}{#2}}}
15 \LWR@formatted{ZebraPar}
16
17 \newcommand{\LWR@HTML@DashedPar}[2][]{{\LWR@fancypar{Dashed}{#2}}}
18 \LWR@formatted{DashedPar}
19
20 \newcommand{\LWR@HTML@MarkedPar}[2][]{{\LWR@fancypar{Marked}{#2}}}
21 \LWR@formatted{MarkedPar}
22
23 \newcommand{\LWR@HTML@UnderlinedPar}[2][]{{\LWR@fancypar{Underlined}{#2}}}
24 \LWR@formatted{UnderlinedPar}
25
26
27 \newcommand{\LWR@HTML@add@fancy@format}{}%
28 \LWR@formatted{add@fancy@format}
29
30
31 \newcommand{\AddFancyparClass}[1]{%
32 \expandafter\newcommand\csname LWR@HTML@#1Par\endcsname[2][]{%
33 \LWR@fancypar{#1}{##2}%
34 }%
35 \LWR@formatted{#1Par}
36 }
37
38 \makeatother
39 \end{warpHTML}

```

---

### File 153 **lwarp-fancyref.sty**

§ 262      Package **fancyref**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg fancyref    fancyref is modified for HTML output.

for HTML output:    1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

---

```

2 \newcommand*\LWRfref@parenfancyrefhook}[1]{(#1)}
3
4 \ifdef\streq{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6 \renewcommand*\fancyrefhook}[1]{#1}%
7 }

```

---

File 154 **l warp-fancytabs.sty**

§ 263 Package **fancytabs**

Pkg fancytabs fancytabs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{}
3 \newcommand{\fancytabsStyle}[1]{}
4 \newcommand{\fancytabsHeight}[1]{}
5 \newcommand{\fancytabsWidth}[1]{}
6 \newcommand{\fancytabsCount}[1]{}
7 \newcommand{\fancytabsLeftColor}[1]{}
8 \newcommand{\fancytabsRightColor}[1]{}
9 \newcommand{\fancytabsTop}[1]{}
10 \newcommand{\fancytabsTextVPos}[1]{}
11 \newcommand{\fancytabsTextHPos}[1]{}
12 \newcommand{\fancytabsGap}[1]{}
13 \newcommand{\fancytabsFloor}[1]{}
14 \newcommand{\fancytabsRotate}[1]{}

```

---

File 155 **l warp-fancyvrb.sty**

§ 264 Package **fancyvrb**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancyvrb fancyvrb is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a <div> of class fancyvrb. The label is placed inside a <div> of class fancyvrblabel. The verbatim text itself is placed inside a <div> of class verbatim.

If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

⚠ \VerbatimFootnotes  
⚠ sectioning or displaymath

```

\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}

```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

```
1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]
```

Initial default patch for fancyvrb:

```
4 \fvset{frame=none}%
```

After the preamble is loaded, after any patches to Verbatim:

```
5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb.}
```

\VerbatimFootnotes Patched to use the new version.

```
7 \def\VerbatimFootnotes{%
8 \let@\footnotetext\V@footnotetext%
9 \let\footnote\V@footnote%
10 \let\LWR@footnotetext\V@footnotetext% lwarp
11 }
```

\V@footnotetext Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@footnotetext.

```
12 \def\V@footnotetext{%
13 \LWR@traceinfo{V@footnotetext}%

```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
14 \LWR@newautopagelabel{page}%

```

Take the current footnote box, then append:

```
15 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
16 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
17 \protected@edef\@currentlabel{%
18 \csname p@footnote\endcsname\@thefnmark%
19 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a lateximage:

```
20 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
21 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Append the footnote mark to the list:

```
22 \makefnlist{}%
```

The footnote text will follow after `\V@@@footnotetext` has completed.

```
23 \bgroup%
24 \aftergroup\V@@@footnotetext%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
25 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
26 \ignorespaces%
27 }%
```

`\V@@@footnotetext`

```
28 \def\V@@@footnotetext{%
29 \LWR@origtilde\LWR@orignewline%
30 \LWR@htmlltagc{/ \LWR@tagregularparagraph}\LWR@orignewline%
31 \strut\egroup%
32 }

33 \preto\FVB@Verbatim{\LWR@forcenewpage}
34 \preto\FVB@LVerbatim{\LWR@forcenewpage}
35 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.
```

Simplified to remove PDF formatting:

```
36 \def\FV@BeginListFrame@Single{%
37 \FV@SingleFrameLine{\z@}%
38 }
39
40 \def\FV@EndListFrame@Single{%
41 \FV@SingleFrameLine{\@ne}%
42 }
43
44 \def\FV@BeginListFrame@Lines{%
45 \FV@SingleFrameLine{\z@}%
46 }
47
48 \def\FV@EndListFrame@Lines{%
49 \FV@SingleFrameLine{\@ne}%
50 }
51
52 \renewcommand*\FV@SingleFrameSep{}
```

Adds HTML formatting:

```
53 \def\FV@BUseVerbatim#1{%
54 \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
55 }
```

`\LWR@FVstyle` Holds the style of the verbatim.

```
56 \newcommand*\LWR@FVstyle{}
```

The following patches to `\Verbatim` are executed at the start and end of the environment, depending on the choice of frame. Original code is from the `fancyvrb` package.

```
57 \newcommand*{\LWR@fvstartnone}{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{%
60 \BlockClass[\LWR@FVstyle]{fancyvrb}%
61 \LWR@stoppars%
62 \ifx\FV@LabelPositionTopLine\relax\else%
63 \ifx\FV@LabelBegin\relax\else%
64 \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
65 \LWR@htmltagc{%
66 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space%
67 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
68 }%
69 \LWR@print@textrm{\FV@LabelBegin}%
70 \LWR@htmltagc{/div}\LWR@orignewline%
71 \fi%
72 \fi%
73 \LWR@atbeginverbatim{verbatim}%
74 }%
75 }%
76 %
77 \newcommand*{\LWR@fvendnone}{%
78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{%
80 \LWR@afterendverbatim%
81 \LWR@stoppars%
82 \ifx\FV@LabelPositionBottomLine\relax\else%
83 \ifx\FV@LabelEnd\relax\else%
84 \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
85 \LWR@htmltagc{%
86 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space%
87 style=\textquotedbl{}color: \LWR@origpound\LWR@tempcolor\textquotedbl%
88 }%
89 \LWR@print@textrm{\FV@LabelEnd}%
90 \LWR@htmltagc{/div}\LWR@orignewline%
91 \fi%
92 \fi%
93 \endBlockClass%
94 }%
95 %
96 \newcommand*{\LWR@fvstartsingle}{%
97 \LWR@traceinfo{fvstartsingle}%
98 \LWR@fvstartnone%
99 \FV@BeginListFrame@Single%
100 }%
101 %
102 \newcommand*{\LWR@fvendsingle}{%
103 \LWR@traceinfo{fvendsingle}%
104 \FV@EndListFrame@Single%
105 \LWR@fvendnone%
106 }%
107
```

```

108 \newcommand*{\LWR@fvstartline}{%
109 \LWR@traceinfo{fvstartline}%
110 \LWR@fvstartnone%
111 % \setlength{\LWR@templengthone}{\baselineskip}%
112 \FV@BeginListFrame@Lines%
113 % \setlength{\baselineskip}{\LWR@templengthone}%
114 % \setlength{\baselineskip}{5pt}%
115 }
116
117 \newcommand*{\LWR@fvendline}{%
118 \LWR@traceinfo{fvendline}%
119 \FV@EndListFrame@Lines%
120 \LWR@fvendnone%
121 }

```

The following patches select the start/left/right/end behaviors depending on `frame`. Original code is from the `fancyvrb` package.

```

122 \newcommand*{\LWR@FVfindbordercolor}{%
123 \FancyVerbRuleColor%
124 \LWR@findcurrenttextcolor%
125 \color{black}%
126 }
127
128 % border width of \FV@FrameRule
129 \newcommand*{\LWR@FVborderstyle}[1]{%
130 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
131 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
132 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
133 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
134 }
135
136 \def\FV@Frame@none{%
137 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
138 \let\FV@BeginListFrame\LWR@fvstartnone%
139 \let\FV@LeftListFrame\relax%
140 \let\FV@RightListFrame\relax%
141 \let\FV@EndListFrame\LWR@fvendnone}
142
143 \FV@Frame@none% default values
144
145 \def\FV@Frame@singl{%
146 \renewcommand*{\LWR@FVstyle}{%
147 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
148 \LWR@FVborderstyle{}%
149 }%
150 \let\FV@BeginListFrame\LWR@fvstartsingl%
151 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152 \let\FV@RightListFrame\FV@RightListFrame@Single%
153 \let\FV@EndListFrame\LWR@fvendsingl}
154
155 \def\FV@Frame@lines{%
156 \renewcommand*{\LWR@FVstyle}{%
157 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158 \LWR@FVborderstyle{-top}%

```

```

159 \LWR@indentHTMLtwo%
160 \LWR@FVborderstyle{-bottom}%
161 }%
162 \let\FV@BeginListFrame\LWR@fvstartline%
163 \let\FV@LeftListFrame\relax%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168 \renewcommand*\LWR@FVstyle}{%
169 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170 \LWR@FVborderstyle{-top}%
171 }%
172 \let\FV@BeginListFrame\LWR@fvstartline%
173 \let\FV@LeftListFrame\relax%
174 \let\FV@RightListFrame\relax%
175 \let\FV@EndListFrame\LWR@fvendnone}
176
177 \def\FV@Frame@bottomline{%
178 \renewcommand*\LWR@FVstyle}{%
179 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
180 \LWR@FVborderstyle{-bottom}%
181 }%
182 \let\FV@BeginListFrame\LWR@fvstartnone%
183 \let\FV@LeftListFrame\relax%
184 \let\FV@RightListFrame\relax%
185 \let\FV@EndListFrame\LWR@fvendline}

```

Seems to be required in some situations:

```

186 \def\FV@FrameFillLine{%
187 \def\FV@Frame@leftline{%
188 \renewcommand*\LWR@FVstyle}{%
189 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
190 \LWR@FVborderstyle{-left}%
191 }%
192 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)
193 \ifx\FancyVerbFillColor\relax%
194 \let\FV@FrameFillLine\relax%
195 \else%
196 \tempdima\FV@FrameRule\relax%
197 \multiply\tempdima-\tw@%
198 \edef\FV@FrameFillLine{%
199 {\noexpand\FancyVerbFillColor{\vrule@width\number\tempdima\sp}}%
200 \kern-\number\tempdima\sp}%
201 \fi%
202 \let\FV@BeginListFrame\LWR@fvstartnone%
203 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
204 \let\FV@RightListFrame\relax%
205 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the **fancyvrb** package.

```

206 \def\FV@SingleFrameLine#1{%
207 % \hbox to \z@{%
208 % \kern\leftmargin
209 \ifnum#1=\z@\relax
210 \let\FV@Label\FV@LabelBegin
211 \else
212 \let\FV@Label\FV@LabelEnd
213 \fi
214 \ifx\FV@Label\relax
215 \FancyVerbRuleColor{\vrule \width\linewidth \height\FV@FrameRule}%
216 \else
217 \ifnum#1=\z@
218 \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
219 \ifx\FV@LabelPositionTopLine\relax
220 \else
221 \fi
222 \else
223 \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
224 \ifx\FV@LabelPositionBottomLine\relax
225 \else
226 \fi
227 \fi
228 \fi
229 % \hss
230 % }
231 }

```

Processes each line, adding optional line numbers. Original code is from the `fancyvrb` package.

```

232 \def\FV@ListProcessLine#1{%
233 \hbox to \hsize{%
234 % \kern\leftmargin
235 \hbox to \VerbatimHTMLWidth {%
236 \ifcvoid{\FV@LeftListNumber}{}{\kern 2.5em}%
237 \FV@LeftListNumber%
238 \FV@LeftListFrame
239 \FancyVerbFormatLine{#1}%
240 \hss%
241 \FV@RightListFrame
242 \FV@RightListNumber%
243 }%
244 \hss% required to avoid underfull hboxes
245 }
246 }

247 \def\FV@ListProcessLine@i#1{%
248 % \hbox{%
249 \ifvoid@\labels\else
250 \hbox to \z@{\kern\@totalleftmargin\box@\labels\hss}%
251 \fi
252 \FV@ListProcessLine{#1}%
253 % }
254 \let\FV@ProcessLine\FV@ListProcessLine@ii%
255 }

```

```

256 \def\FV@ListProcessLastLine{}

Env BVerbatim

257
258 \xpretocmd{\FV@BeginVBox}
259 {%
260 \LWR@forcenewpage% instead of \preto
261 \LWR@atbeginverbatim{bverbatim}%
262 }
263 {}
264 {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
265
266 \xapptocmd{\FV@EndVBox}
267 {%
268 \LWR@afterendverbatim%
269 }
270 {}
271 {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```
272 } % \AfterEndPreamble
```

### File 156 **lwarp-fbox.sty**

§ 265 Package **fbox**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg fbox fbox is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{fbox}[2020/06/22]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro{\LWR@HTML@fbox}{\fbox}
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*{\orig@fbox}{\FBox@i[tblr]}
```

\WR@fboxpkg@border {<1: top/bottom/left/right>} {<2: padding, or empty>}

Accumulates HTML styles for border, and padding if given:

```
4 \newcommand*{\LWR@fboxpkg@border}[2]{%
5 \appto{\LWR@tempone}{%
6 border-#1: % space
7 \LWR@printlength{\LWR@atleastonept} % space
8 solid \LWR@origpound\LWR@tempcolor ;\LWR@indentHTML}
```

```

9 }%
10 \ifblank{\#2}{\{%
11 \appto{\LWR@tempone}{%
12 padding-\#1: \LWR@printlength{\#2} ; \LWR@indentHTML
13 }%
14 }%
15 }

```

A hack to reuse the same code for inline and blocks:

```

16 \newbool{\LWR@fboxpkg@ispar}
17 \boolfalse{\LWR@fboxpkg@ispar}

```

Accumulate HTML styles for left and right padding, depending on `\if@fbox@space@left`, `\if@fbox@space@right`:

```

18 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
19 \csuse{if@fbox@space@#1}{%
20 \appto{\LWR@tempone}{%
21 padding-\#1: \LWR@printlength{\fbox@@sep}; \LWR@indentHTML
22 }%
23 \else{%
24 \appto{\LWR@tempone}{%
25 padding-\#1: 0pt; \LWR@indentHTML
26 }%
27 \fi%
28 }

```

The HTML version, modified to use HTML styles and either an `\InlineClass` or `BlockClass`:

```
29 \newcommand{\LWR@HTML@FBox@iii}[1]{%
```

Find and set the text color, rule width, margin:

```

30 \LWR@forceminwidth{\fbox@@rule}%
31 \LWR@findcurrenttextcolor%
32 \def{\LWR@tempone}{%
33 color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
34 margin: 1ex ; \LWR@indentHTML
35 }%

```

Add left/right padding:

```

36 \LWR@fboxpkg@lrpadding{left}%
37 \LWR@fboxpkg@lrpadding{right}%

```

Per the original to decode the borders, in a new way:

```

38 \ifnum\the\@tempcntb>8\relax
39 \advance\@tempcntb by -8
40 \LWR@fboxpkg@border{top}{\fbox@@sep}%
41 \fi
42 \ifnum\@tempcntb>3

```

```

43 \advance\@tempcntb by -4
44 \LWR@fboxpkg@border{left}{ }%
45 \fi
46 \ifnum\@tempcntb>1
47 \LWR@fboxpkg@border{right}{ }%
48 \fi
49 \ifodd\@tempcntb
50 \LWR@fboxpkg@border{bottom}{\fbox@@sep}%
51 \fi

```

Generate a `BlockClass` or `\InlineClass` with the contents:

```

52 \color@begingroup
53 \ifbool{\LWR@fboxpkg@ispar}{%
54 {%
55 \begin{BlockClass}[\LWR@tempone]{fboxpkg}%
56 #1%
57 \end{BlockClass}%
58 }%
59 {%
60 \begin{InlineClass}[\LWR@tempone]{fboxpkg}%
61 #1%
62 \end{InlineClass}%
63 }%
64 \color@endgroup
65 \boolfalse{\LWR@fboxpkg@ispar}%
66 }%
67 \LWR@formatted{FBox@iii}

```

For `\fparbox`, set the use of `BlockClass`, then reuse the above:

```

68 \long\def\LWR@HTML@FParBox@i[#1]{%
69 \booltrue{\LWR@fboxpkg@ispar}%
70 \FBox@i[#1]{#2}%
71 }%
72 \LWR@formatted{FParBox@i}%
73
74 \long\def\LWR@HTML@FParBox@ii{%
75 \booltrue{\LWR@fboxpkg@ispar}%
76 \FBox@i[tblr]{#1}%
77 }%
78 \LWR@formatted{FParBox@ii}

```

For `MATHJAX`, absorb and ignore star and optional arguments:

```

79 \CustomizeMathJax{\let\LWRorigfbox\fbox}%
80 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][]{\LWRorigfbox{#2}}}%
81 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar{\LWRfboxpkgtwo}{\LWRfboxpkgtwo}}}%
82 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

---

File 157 **l warp-fewerfloatpages.sty**

§ 266 Package **fewerfloatpages**

Pkg fewerfloatpages fewerfloatpages is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

---

File 158 **l warp-figcaps.sty**

§ 267 Package **figcaps**

(Emulates or patches code by PATRICK W. DALY.)

Pkg figcaps figcaps is ignored.  
Discard all options for l warp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson(){}
3 \newcommand*\figcapsoff(){}
4 \newcommand*\printfigures(){}
5 \newcommand*\figmarkon(){}
6 \newcommand*\figmarkoff(){}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

---

File 159 **l warp-figsize.sty**

§ 268 Package **figsize**

(Emulates or patches code by ANTHONY A. TANBAKUCHI.)

Pkg figsize figsize is emulated.  
**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]
```

Emulates a virtual 6×9 inch textsize.

```
2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }
```

---

**File 160 l warp-fitbox.sty****§ 269 Package fitbox**

Pkg fitbox fitbox is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```
2 \NewDocumentCommand{\fitbox}{s o m}{%
3 \begin{BlockClass}{fitbox}
4 #3
5 \end{BlockClass}
6 }
7
8 \newcommand*\fitboxset[1] {}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3]{}()
```

---

**File 161 l warp-fix2col.sty****§ 270 Package fix2col**

Pkg fix2col fix2col is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---

**File 162 l warp-fixmath.sty****§ 271 Package fixmath**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg fixmath fixmath is used as-is for SVG math, and emulated for MATHJAX.

⚠ **limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{lwarf-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}
```

---

### File 163 **lwarf-fixme.sty**

## § 272 Package **fixme**

(Emulates or patches code by DIDIER VERRA.)

Pkg **fixme** **fixme** is patched for use by **lwarf**.

⚠ **external layouts** External layouts (\fxloadlayouts) are not supported.

Customized layouts are overwritten by **lwarf**'s versions \AtBeginDocument in order to provide the HTML conversion. If creating a new layout, see **lwarf**'s changes to provide similar for the new layout, inside a **warpHTML** environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after **fixme** is loaded:

```

\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixme}[2019/01/03]

Restore **lwarf**'s version of \wrindex, ignoring the **fixme** package's target option:

```
2 \let@\wrindex\LWR@wrindex
```

Float-related macros required by **lwarf**:

```

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6 \hypertocfloat{1}{fixme}{lox}%
7 {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8 {#2}%
9 }
```

Other modifications. Done \AtBeginDocument to hopefully work if the user customizes the layouts.

```

10 \AtBeginDocument{
11
12 \def\FXFaceInlineHTMLStyle{font-weight:bold}
13
14 \renewcommand*\FXLayoutInline[3]{ % space
15 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
16 {\@fxtextrstd{\#1}{\#2}{\#3}}%
17 }
18
19 \def\FXFaceEnvHTMLStyle{font-weight:bold}
20
21 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
22 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}%
23 \ignorespaces#2 \fxnotename{\#1}: \ignorespaces%
24 }
25
26 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
27
28 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
29 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}%
30 \fxnotename{\#1}: \ignorespaces%
31 }
32
33 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{\#2}\endBlockClass}
34
35 \def\FXFaceSignatureHTMLStyle{font-style:italic}
36
37 \DeclareRobustCommand*\@fxsignature[1]{%
38 \ifthenelse{\equal{\#1}{}}{%
39 {}%
40 { -- \InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{\#1}}%
41 }%
42
43
44 \def\FXFaceTargetHTMLStyle{font-style:italic}
45
46 \renewcommand\FXTargetLayoutPlain[2]{%
47 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{\#2}%
48 }
49
50 }% \AtBeginDocument

```

File 164 **lwarf-fixmetodonotes.sty**

§ 273 Package **fixmetodonotes**

(Emulates or patches code by GIOELE BARABUCCI.)

Pkg fixmetodonotes fixmetodonotes is patched for use by lwarf.

---

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

2 \renewcommand{\NOTES@addtolist}[2]{%
3 \refstepcounter{NOTES@note}%
4 % \phantomsection% REMOVED
5 \addcontentsline{notes}{NOTES@note}{%
6 \protect\numberline{\theNOTES@note}{\#1}: \#2}%
7 }%
8 }
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11 \textcolor{#2}{% WAS \color
12 \textbf{\#1}}%
13 }}%
14
15 \renewcommand{\NOTES@colorline}[2]{%
16 \bgroup%
17 \ULon{\LWR@backgroundcolor{\#1}\#2}%
18 }

```

---

#### File 165 **l warp-flafter.sty**

##### § 274 Package **flafter**

Pkg flafter flafter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

```

---

#### File 166 **l warp-flippdf.sty**

##### § 275 Package **flippdf**

Pkg flippdf flippdf is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}

```

---

#### File 167 **l warp-float.sty**

##### § 276 Package **float**

(Emulates or patches code by ANSELM LINGNAU.)

Pkg float float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML <figure> class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

**⚠ not seem to be a floating environment for HTML output:** Always declare a \newfloat before modifying it with \floatname, etc.

```
1 \LWR@ProvidesPackageDrop{float}[2001/11/08]
```

\LWR@floatstyle The default float style.

```
2 \newcommand*{\LWR@floatstyle}{plain}
```

\newfloat {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the \newfloat command from the float package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}{%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}}}
```

Remember the float style:

```
7 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}%
```

**newfloat** package automatically creates the \listof command for new floats, but **float** does not, so remove \listof here in case it is manually created later.

```
8 \cslet{\listof#1s}\relax%
9 \cslet{\listof#1s}\relax%
```

Likesize, **newfloat** also creates \l@<type>, but **float** does not, so remove it here:

```
10 \cslet{\l@#1}\relax%
11 }
```

\floatname {<type>} {<name>}

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from **trivfloat**.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13 \def\LWR@tempone{#2}%
14 \def\LWR@temptwo{\@nameuse{#1name}}%
15 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{%
16 \SetupFloatingEnvironment{#1}{name=#2}%
17 }%
18 }
```

\floatplacement {<type>} {<placement>}

Float placement is ignored.

---

```

19 \newcommand*{\floatplacement}[2]{%
20 \SetupFloatingEnvironment{#1}{placement=#2}%
21 }

```

\floatstyle {⟨style⟩}

Remember the style for future floats:

```

22 \newcommand{\floatstyle}[1]{%
23 \def\LWR@floatstyle{#1}%
24 }%

```

\restylefloat \* {⟨type⟩}

Remember the style for this float:

```

25 \NewDocumentCommand{\restylefloat}{s m}{%
26 \csedef{\LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }%

```

\listof See section 78.2 for the \LWR@listof command in the l warp core.

```
28 \newcommand{\listof}{\LWR@listof}
```

---

### File 168 l warp-floatflt.sty

§ 277 Package **floatflt**

(Emulates or patches code by MATS DAHLGREN.)

Pkg floatflt floatflt is emulated.

**for HTML output:** Discard all options for l warp-floatflt:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

Env [⟨⟩] offset {⟨type⟩} {⟨width⟩} Borrowed from the l warp version of keyfloat:

```

2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{O{-1.2ex} m m}%
3 {%
4 \begin{LWR@setvirtualpage}%
5 \ifblank{#3}{%
6 \LWR@BlockClassWP{%
7 float:right; %
8 width: 1.5in; % reasonable dummy width for word processor
9 margin:10pt%
10 }{}%
11 (note)%
12 {marginblock}%
13 }{%
14 \setlength{\LWR@templengthone}{#3}%
15 \LWR@BlockClassWP{%
16 float:right; %

```

---

```

17 width:\LWR@printlength{\LWR@templengthone}; % extra space
18 margin:10pt%
19 }{%
20 width:\LWR@printlength{\LWR@templengthone}%
21 }%
22 (note)%
23 {marginblock}%
24 }%
25 \renewcommand*\{@capttype}{#2}%
26 }
27 {%
28 \endLWR@BlockClassWP%
29 \end{LWR@setvirtualpage}%
30 }

```

**Env** `floatingfigure` `[<placement>] {<width>}`

```

31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatflt@marginfloat}}

```

**Env** `floatingtable` `[<placement>]`

```

34 \DeclareDocumentEnvironment{floatingtable}{o}
35 {\begin{KFLTfloatflt@marginfloat}{table}{}}
36 {\end{KFLTfloatflt@marginfloat}}

```

---

### File 169 **l warp-floatpag.sty**

#### § 278 Package **floatpag**

(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)

**Pkg** `floatpag` `floatpag` is ignored.

**for HTML output:** Discard all options for `l warp-floatpag`:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*\{floatpagestyle}[1]{}
3 \newcommand*\{rotfloatpagestyle}[1]{}
4 \newcommand*\{thisfloatpagestyle}[1]{}

```

---

### File 170 **l warp-floatrow.sty**

#### § 279 Package **floatrow**

(Emulates or patches code by OLGA LAPKO.)

**Pkg** `floatrow` `floatrow` is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ Misplaced alignment tab character &

⚠ subfig package When combined with the subfig package, while inside a subfloatrow \ffigbox and \ttabbox must have the caption in the first of the two of the mandatory arguments.

⚠ \FBwidth, \FBheight The emulation of floatrow does not support \FBwidth or \FBheight. These values are pre-set to .3\linewidth and 2in. Possible solutions include:

- Use fixed lengths. lwarp will scale the HTML lengths appropriately.
- Use warpprint and warpHTML environments to select appropriate values for each case.
- Inside a warpHTML environment, manually change \FBwidth or \FBheight before the \ffigbox or \ttabbox. Use \FBwidth or \FBheight normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```
2 \newbool{\LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \@ifpackageloaded{subcaption}
6 {\booltrue{\LWR@subcaptionloaded}}
7 {\boolfalse{\LWR@subcaptionloaded}}
8 }
```

\floatbox {<1 preamble>} {<2 captype>} {<3 width>} {<4 height>} {<5 vert pos>} {<6 caption>} {<7 object>}

Only parameters for captype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```
9 \NewDocumentCommand{\floatbox}{o m o o o +m +m}%
10 \ifbool{\LWR@subcaptionloaded}%
11 {%
 subcaption
```

For subcaption:

```
12 \ifbool{\LWR@insubfloatrow}%
13 {%
 subcaption in a subfloatrow
```

subfigure and subtable environments take width as an argument.

```
14 \IfValueTF{#3}%
15 {%
 \nameuse{sub#2}{#3}%
 \nameuse{sub#2}{\linewidth}%
}%
17 {%
 subcaption in a subfloatrow
}%
18 {%
 subcaption not in subfloatrow
```

figure and table environments do not take a width argument.

```

19 \nameuse{#2}%
20 }% subcaption not in subfloatrow
21 #6
22
23 #7

```

End the environments:

```

24 \ifbool{LWR@insubfloatrow}%
25 {\nameuse{endsub#2}}%
26 {\nameuse{end#2}}%
27 }% subcaption
28 { assume subfig

```

For subfig:

```

29 \ifbool{LWR@insubfloatrow}%
30 { subfig in a subfloatrow

```

\subfloat is a macro, not an environment.

Package subfig's \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```

31 \begingroup
32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 { subfig package, but not a subfig

```

figure and table are environments:

```

37 \nameuse{#2}
38 #6
39
40 #7
41 \nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }

```

Not used:

```

45 \newcommand*\nocapbeside(){}
46 \newcommand*\capbeside(){}
47 \newcommand*\captop(){}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*\useFCwidth(){}
53 \newcommand{\floatsetup}[2][]{}
54 \newcommand{\thisfloatsetup}[1] {}
55 \newcommand{\clearfloatsetup}[1] {}
56 \newcommand*\killfloatstyle(){}

```

---

```

\newfloatcommand {\langle 1 command\rangle} {\langle 2 captype\rangle} [\langle 3 preamble\rangle] [\langle 4 default width\rangle]
Preamble and default width are ignored.

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 @namedef{#1}{%
59 \floatbox{#2}{%
60 }%
61 }%
62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 @namedef{#1}{%
64 \floatbox{#2}{%
65 }%
66 }%
67 \newfloatcommand{ffigbox}{figure}{\nocapbeside}[]%
68 \newfloatcommand{ttabbox}{table}{\captop}{\FBwidth}%
69 \newfloatcommand{fcapside}{figure}{\capbeside}[]%
70 \newenvironment*{floatrow}[1][2]{%
71 {%
72 \begin{LWR@setvirtualpage}*{%
73 \BlockClass{floatrow}{%
74 }%
75 {%
76 \endBlockClass%
77 \end{LWR@setvirtualpage}%
78 }%
79 \newcommand*{\LWR@frowkeyplacement}{}%
80 \newcommand*{\LWR@frowkeyname}{}%
81 \newcommand*{\LWR@frowkeyfileext}{}%
82 \newcommand*{\LWR@frowkeywithin}{}%
83 \newcommand*{\LWR@frowkeycapstyle}{}%
84 \define@key{frowkeys}{placement}{}%
85 \define@key{frowkeys}{placement}{}%

```

---

```

86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{()}%
```

\DeclareNewFloatType {*<type>*} {*<options>*}

Use \listof{type}{Title} to print a list of the floats.

```
90 \newcommand*\DeclareNewFloatType[2]{%
```

Reset key values:

```

91 \renewcommand*\LWR@frowkeyplacement{}%
92 \renewcommand*\LWR@frowkeyname{}%
93 \renewcommand*\LWR@frowkeyfileext{}%
94 \renewcommand*\LWR@frowkeywithin{}%
95 \renewcommand*\LWR@frowkeycapstyle{}%
```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%
```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{}}%
100 {%
101 \DeclareFloatingEnvironment[
102 placement=\LWR@frowkeyplacement,
103 fileext=\LWR@frowkeyfileext
104]{#1}%
105 }%
106 {%
107 \DeclareFloatingEnvironment[
108 placement=\LWR@frowkeyplacement,
109 fileext=\LWR@frowkeyfileext,
110 within=\LWR@frowkeywithin
111]{#1}%
112 % \LWR@traceinfo{finished newfloat #1}%
113 }%
```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{}}%
115 {}%
116 {%
117 \SetupFloatingEnvironment[#1]{name=\LWR@frowkeyname}%
118 }%
119 }
```

Not used:

```

120 \newcommand{\buildFBBOX}[2]{}
121 \newcommand*{\CenterFloatBoxes}{}%
122 \newcommand*{\TopFloatBoxes}{}%
123 \newcommand*{\BottomFloatBoxes}{}%
124 \newcommand*{\PlainFloatBoxes}{}%
```

```

125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

\RawCaption {⟨text⟩}

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}
```

\floatfoot {⟨text⟩}

Places additional text inside a float, inside a css <div> of class floatfoot.

```

130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}
132 #2
133 \end{BlockClass}
134 }
```

Used to compute \linewidth.

```

135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}
```

Env subfloatrow [⟨num\_floats⟩]

```

137 \newenvironment*{subfloatrow}[1][2]
138 {
```

The row of floats is placed into a <div> of class floatrow:

```

139 \LWR@forcenewpage
140 \BlockClass{floatrow}
```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```

141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }
```

### File 171 lwarf-fltrace.sty

§ 280 Package **fltrace**

Pkg fltrace fltrace is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```
2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}
```

---

**File 172 l warp-flushend.sty****§ 281 Package flushend**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg flushend flushend is ignored.

for HTML output: Discard all options for l warp-flushend:

```
1 \LWR@ProvidesPackageDrop{flushend}[2017/03/27]

2 \newcommand*\{\flushend}{}
3 \newcommand*\{\raggedend}{}
4 \newcommand*\{\flushcsend}{}
5 \newcommand*\{\raggedcsend}{}
6 \newcommand*\{\atColsBreak}[1]{}
7 \newcommand*\{\atColsEnd}[1]{}
8 \newcommand*\{\showcsendrule}{}

```

**File 173 l warp-fnbreak.sty****§ 282 Package fnbreak**

Pkg fnbreak fnbreak is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]  
  
2 \newcommand\*\{\fnbreakverbose}{}  
3 \newcommand\*\{\fnbreaknonverbose}{}  
4 \newcommand\*\{\fnbreaklabel}{}  
5 \newcommand\*\{\fnbreaknolabel}{}  

---

**File 174 l warp-fncychap.sty****§ 283 Package fncychap**

(Emulates or patches code by ULF A. LINDGREN.)

Pkg fncychap fncychap is ignored.

for HTML output: Discard all options for l warp-fncychap:

```
1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]
```

```
2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}){}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}
```

---

File 175 **l warp-fnlineno.sty**

§ 284 Package **fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 176 **l warp-fnpara.sty**

§ 285 Package **fnpara**

Pkg fnpara fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 177 **l warp-fnpos.sty**

§ 286 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg fnpos fnpos is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

2 \newcommand*\makeFNbottom(){}
3 \newcommand*\makeFNmid(){}
4 \newcommand*\makeFNbelow(){}
5 \newcommand*\makeFNabove(){}

```

---

### File 178 **l warp–fontawesome.sty**

#### § 287 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

Pkg fontawesome fontawesome is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

#### ⚠ *poppler* syntax warning

If using PDF LATEX, *poppler* may issue a syntax warning regarding parsing a ligature component. XeLATEX or LuaLATEX may be used to avoid this warning.

In the following, the general strategy is to intercept \symbol and embed it inside a lateximage. These changes are done inside a local group.

For PDF LATEX, the alt tag includes the icon (symbol) number. For XeLATEX and LuaLATEX, the alt tag is generic.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*{\LWR@fontawesome@xelatex@symbol}[1]{%
9 \LWR@findcurrenttextcolor%
10 \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
11 \csuse{\LWR@font@size}%
12 \LWR@orig@FA%
13 \LWR@orig@symbol{#1}%
14 \end{lateximage}%
15 }
16
17 \RenewDocumentCommand{\FA}{()}{%
18 \LetLtxMacro{\symbol}{\LWR@fontawesome@xelatex@symbol}%
19 }
20
21 \else
22
23 \newcommand*{\LWR@fontawesome@symbolX}[2]{%

```

```

24 \LWR@findcurrenttextcolor%
25 \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26 \csuse{\LWR@font@size}%
27 \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28 \LWR@orig@symbol{#1}%
29 \end{lateximage}%
30 }
31
32 \newcommand*{\LWR@fontawesome@symbolone}[1]{%
33 \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*{\LWR@fontawesome@symboltwo}[1]{%
37 \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*{\LWR@fontawesome@symbolthree}[1]{%
41 \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45 \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49 \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53 \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

File 179 **l warp–fontawesome5.sty**

§ 288      Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

Pkg **fontawesome5** **fontawesome5** is patched for use by **l warp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]

```

2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:nn{
4 \LWR@findcurrenttextcolor
5 \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
6 \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7 \csuse{\LWR@font@size}

```

---

```

8 \exp_last_unbraced:Nv
9 __fontawesome_icon_at:nnnn
10 {c__fontawesome_slot_#2_tl}
11 {#1}{#2}
12 \end{lateximage}
13 }{
14 \msg_error:nnnx{fontawesome5}{icon-not-found}{#2}{#1}
15 }
16 }
17 \ExplSyntaxOff

```

---

File 180 **l warp-fontaxes.sty**

§ 289 Package **fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

Pkg fontaxes **fontaxes** is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the **l warp** core. Swashes and figure styles are ignored for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

```

2 \ifdef{\LWR@HTML@swshape}{}{%
3 \newcommand{\LWR@HTML@swshape}{}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{%
10 \LetLtxMacro\swshape\empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }

```

---

File 181 **l warp-fontenc.sty**

§ 290 Package **fontenc**

Pkg fontenc If using PDF LATEX, **l warp** used to require **fontenc** be loaded before **l warp**, but now **l warp** itself loads **\fontenc** with T1 encoding, which **l warp** requires. **fontenc** is now allowed to be loaded with another encoding after **l warp**.

**l warp-fontenc** is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

---

File 182 **l warp-footmisc.sty**

§ 291 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg **footmisc** **footmisc** is emulated.

**l warp** incidentally happens to emulate the **stable** option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@\hspace{0pt}\kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker{3sp}
17 \providecommand*\multfootsep{,}
```

Using **cleveref**. **\labelcref** only prints the number of the object, not its type.

```
18 \providecommand*\footref[1]{\Labelcref{\#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark{
20 \@ifnextchar[%
21 \@xmpfootnotemark%
22 {}%
23 \stepcounter\@mpfn%
24 \protected@edef\@thefnmark{\thempfn}%
25 \@footnotemark%
26 }%
27 }
28 \def\@xmpfootnotemark[#1]{%
29 \begingroup
30 \csname c@\@mpfn\endcsname #1\relax%
31 \unrestored@protected@edef\@thefnmark{\thempfn}%
```

```
32 \endgroup%
33 \@footnotemark%
34 }
```

---

File 183 **l warp-footnote.sty**

§ 292 Package **footnote**

(Emulates or patches code by MARK WOODING.)

Pkg **footnote** **footnote** is used with minor patches.

for **HTML output** **footnote** patches `\@makefntext` in a strange way. It must be restored to the expected defintion before loading **footnote**, then replaced again after.

```
1 \long\def\@makefntext#1{\@thefnmark~#1}
2
3 \LWR@ProvidesPackagePass{footnote}[1997/01/28]
4
5 \long\def\@makefntext#1{\@thefnmark~{#1}}

6 \def\spewnotes{%
7 \endgroup%
8 \if@savingnotes\else\ifvoid\fn@notes\else\begingroup%
9 \let\@makefntext\@empty%
10 \let\@finalstrut\@gobble%
11 \let\rule\@gobbletwo%
12 \booltrue{\LWR@spewingnotes}%
13 \footnotetext{\unvbox\fn@notes}%
14 \endgroup\fi\fi%
15 }
16 \let\endsavenotes\spewnotes
17
18
19 \def\fn@fntext#1{%
20 \ifx\ifmeasuring@\@undefined%
21 \expandafter\@secondoftwo\else\expandafter\@iden%
22 \fi%
23 {\ifmeasuring@\expandafter\@gobble\else\expandafter\@iden\fi}%
24 {%
25 \global\setbox\fn@notes\vbox{%
26 \unvbox\fn@notes%
27 \LWR@htmltagc{\LWR@tagregularparagraph}%
28 \LWR@orignewline%
29 \fn@startnote%
30 \@makefntext{%
31 \rule{z@\footnotesepr}%
32 \ignorespaces%
33 #1%
34 \@finalstrut\strutbox%
35 }%
36 \fn@endnote%
37 }%
```

```
38 }%
39 }
```

Removed print-version formatting:

```
40 \def\fn@startnote{%
41 % \parboxrestore%
42 \protected@edef{\currentlabel}{\csname p@\@mpfn\endcsname\@thefnmark}%
43 % \color@begingroup% *** conflicts with lwarp
44 }
45
46 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
47 \def\fn@endnote{%
48 \LWR@origtilde\LWR@orignewline%
49 \LWR@htmlltagc{/}\LWR@tagregularparagraph}\LWR@orignewline%
50 \LWR@origtilde\LWR@orignewline%
51 }
```

Removed print-version formatting:

```
52 \def\fn@startfntext{%
53 \setbox\z@\vbox\bgroup%
54 \LWR@htmlltagc{\LWR@tagregularparagraph}%
55 \LWR@orignewline%
56 \fn@startnote%
57 \fn@prefntext% Req'd for numbering.
58 % \rule\z@\footnotesep%
59 \ignorespaces%
60 }
61
```

Removed print-version formatting, added closing paragraph tag:

```
62 \def\fn@endfntext{%
63 \fn@postfntext%
64 \LWR@origtilde\LWR@orignewline%
65 \LWR@htmlltagc{/}\LWR@tagregularparagraph}%
66 \LWR@orignewline%
67 \egroup%
68 \begingroup%
69 \let\@makefntext\@empty%
70 \let\@finalstrut\@gobble%
71 \LetLtxMacro\rule\gobbletwo% *8* also the optional argument?
72 \booltrue{\LWR@spewingnotes}%
73 \footnotetext{\unvbox\z@}%
74 \endgroup%
75 }
```

These have been redefined, so re-\let them again:

```
76 \let\endfootnote\fn@endfntext
77 \let\endfootnotetext\endfootnote
```

---

File 184 **l warp-footnotebackref.sty**

§ 293 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 185 **l warp-footnotehyper.sty**

§ 294 Package **footnotehyper**

Pkg footnotehyper footnotehyper is a hyperref-safe version of footnote. For l warp, footnotehyper is emulated.

**for HTML output:** Discard all options for l warp-footnotehyper:

```
1 \RequirePackage{footnote}
2
3 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 186 **l warp-footnoterange.sty**

§ 295 Package **footnoterange**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg footnoterange footnoterange is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 187 **l warp-footnpag.sty**

§ 296 Package **footnpag**

Pkg footnpag footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

**File 188 `l warp-foreign.sty`**

§ 297      Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

Pkg `foreign` `foreign` is patched for use by `l warp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]

2 \renewcommand\foreignabbrfont{\emph}

---

**File 189 `l warp-forest.sty`**

§ 298      Package **forest**

*(Emulates or patches code by SAŠO ŽIVANOVIĆ.)*

Pkg `forest` `forest` is patched for use by `l warp`.

⚠ `\Forest*` The starred version of the macro `\Forest*` is not supported. `l warp` encases each `lateximage` in an environment, so the global results of the starred `\Forest*` are lost.

**for HTML output:** 1 \LWR@ProvidesPackagePass{forest}[2017/07/14]

```
2 \BeforeBeginEnvironment{forest}{%
3 \begin{lateximage}[-forest-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \RenewDocumentCommand{\Forest}{s D(){} m}{%
9 \forest@config{#2}%
10 \IfBooleanTF{#1}{%
11 \PackageError{l warp-forest}%
12 {\protect\Forest* is not supported}%
13 {l warp uses an environment for images,\MessageBreak
14 but \protect\Forest* cannot work in an environment.}%
15 \let\forest@next\forest@env%
16 }{\let\forest@next\forest@group@env}%
17 \begin{lateximage}[-forest-~\PackageDiagramAltText]%
18 \forest@next{#3}%
19 \end{lateximage}%
20 }
```

---

---

**File 190 l warp-fouridx.sty**

§ 299      Package **fouridx**

*(Emulates or patches code by STEFAN KARRMANN.)*

Pkg fouridx fouridx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourIdx}[5]{%
5 \vphantom{#5}^{#2}_{#1}{}_{\hphantom{#1}^{#2}}{}^{#3}_{#4}%
6 }%
7 }
8 \end{warpMathJax}
```

---

**File 191 l warp-fourier.sty**

§ 300      Package **fourier**

*(Emulates or patches code by MICHEL BOVANI.)*

Pkg fourier fourier is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for `upright` and `italic` Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]

```
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \@ifpackagewith{fourier}{sloped}{%
11 \LWR@mathjax@addgreek@l@up{other}{}%
12 \LWR@mathjax@addgreek@u@it*{other}{}%
13 }% sloped
```

```

15 {%
16 \@ifpackagewith{fourier}{upright}
17 {%
18 \LWR@mathjax@addgreek@l@up{}{%
19 \LWR@mathjax@addgreek@u@up*{}{%
20 \LWR@mathjax@addgreek@l@it{other}{}{%
21 \LWR@mathjax@addgreek@u@it*{other}{}{%
22 }{%
23 {%
24 \LWR@mathjax@addgreek@l@up{other}{}{%
25 \LWR@mathjax@addgreek@u@it*{other}{}{%
26 }{%
27 }{%
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartial\partial}

```

`lwarp_mathjax.txt` adds `\left`/`\right` support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}{%
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}{%
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}{%
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45 \mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}}{%
46 }}{%
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}{%
48 \CustomizeMathJax{\newcommand{\xswordsdown}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}{%
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}}\limits}{%
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}}\limits}{%
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}}\limits}{%
54 \CustomizeMathJax{\let\oiintop\oint}{%
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}}\limits}{%
56 \CustomizeMathJax{\let\oiintop\oiint}{%
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}}\limits}{%
58 \CustomizeMathJax{\let\slashintop\slashint}{%
59
60 \CustomizeMathJax{\let\overgroup\overparen}{%
61 \CustomizeMathJax{\let\wideparen\overparen}{%
62 \CustomizeMathJax{\let\widearc\overparen}{%
63 \CustomizeMathJax{\let\wideOarc\overrightarrow}{%
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\mathop{\unicode{x2218}}}{\overgroup{#1}}}}{%
65
66 \end{warpMathJax}

```

---

**File 192 l warp-framed.sty**

§ 301      Package **framed**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg **framed** **framed** is supported and patched by **l warp**.

**for HTML output:** Accept all options for **l warp-framed**:

```
1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

3
4 \renewenvironment{framed}{%
5 \LWR@forcenewpage
6 \BlockClass{framed}%
7 }
8 {\endBlockClass}
9
10 \renewenvironment{oframed}{%
11 \LWR@forcenewpage
12 \BlockClass{framed}%
13 }
14 {\endBlockClass}
15
16
17 \renewenvironment{shaded}{%
18 \convertcolorspec[named]{shadecolor}{HTML}\LWR@tempcolor%
19 \LWR@forcenewpage
20 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
21 }
22 {\endBlockClass}
23
24 \renewenvironment{shaded*}{%
25 \convertcolorspec[named]{shadecolor}{HTML}\LWR@tempcolor%
26 \LWR@forcenewpage
27 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
28 }
29 {\endBlockClass}
30
31
32 \renewenvironment{leftbar}{%
33 \LWR@forcenewpage
34 \BlockClass{framedleftbar}
35 \def\FrameCommand{}%
36 \MakeFramed {}
37 }%
38 {\endMakeFramed\endBlockClass}
39
40
```

```
41 \renewenvironment{snugshade}{%
42 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
43 \LWR@forcenewpage
44 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
45 }
46 {\endBlockClass}
47
48 \renewenvironment{snugshade*}{%
49 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
50 \LWR@forcenewpage
51 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
52 }
53 {\endBlockClass}
54
55 \let\oframed\framed
56 \let\endoframed\endframed
57
58
59 \RenewEnviron{titled-frame}[1]{%
60 \CustomFBox{\#1}{}{0pt}{0pt}{0pt}{0pt}{\BODY}%
61 }

\CustomFBox {\langle toptitle\rangle} {\langle bottitle\rangle} {\langle thickness top\rangle} {\langle bottom\rangle} {\langle left\rangle} {\langle right\rangle} {\langle text contents\rangle}

62 \renewcommand{\CustomFBox}[7]{%
63 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
64 \LWR@forcenewpage
65 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
66 \ifthenelse{\isempty{\#1}}{}{%
67 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68 \textcolor{TFTTitleColor}{\textbf{\#1}}%
69 \end{BlockClass}%
70 }%
71 }%
72 #7
73
74 \ifthenelse{\isempty{\#2}}{}{%
75 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
76 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77 \textcolor{TFTTitleColor}{\textbf{\#2}}%
78 \end{BlockClass}%
79 }%
80 \end{BlockClass}
81 }

\TitleBarFrame [\langle marker\rangle] {\langle title\rangle} {\langle contents\rangle}

82 \renewcommand{\TitleBarFrame}[3][]{
83 \CustomFBox
84 {\#2}{}%
85 \fboxrule\fboxrule\fboxrule\fboxrule
86 {\#3}%
87 }
```

```

88 \renewcommand{\TF@Title}[1]{#1}

MakeFramed {\langle settings\rangle}

89 \let\MakeFramed\relax
90 \let\endMakeFramed\relax
91
92 \NewEnviron{MakeFramed}[1]{%
93 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
94 }

\fb@put@frame {\langle frame cmd no split\rangle} {\langle frame cmd split\rangle}

95 \renewcommand*{\fb@put@frame}[2]{%
96 \relax%
97 \@tempboxa%
98 }

```

### File 193 l warp-froufrou.sty

§ 302      Package **froufrou**

(Emulates or patches code by NELSON LAGO.)

Pkg froufrou froufrou is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{froufrou}[2020/12/22]

```

2 \ExplSyntaxOn
3 \xpretocmd{\setfroufrou}
4 {\edef\LWR@latestfroufrou{\detokenize{#1}}}
5 {}
6 {\LWR@patcherror{froufrou}{setfroufrou}}
7 \ExplSyntaxOff
8
9 \RenewDocumentCommand{\froufrou}{s O{}}
10 \nopagebreak[4]\par
11
12 \IfBooleanTF{#1}{\@afterindenttrue}{\@afterindentfalse}
13
14 \nopagebreak[4]\@froufrouspacebefore\nopagebreak[4]
15
16 \bgroup
17 \setfroufrou{#2}%
18 \normalsize
19 \ifdefvoid{\setstretch}{}{\setstretch{\setspace@singlespace}}% normally 1
20 \setlength{\parskip}{0pt}
21 \noindent\centering\bgroup%
22 \begin{center}%
23 \begin{ lateximage }*[froufrou][\LWR@latestfroufrou]%
24 \froufrouOrnament%
25 \end{ lateximage }%
26 \end{center}%
27 \bgroup%
28 \begin{center}%
29 \begin{ lateximage }*[froufrou][\LWR@latestfroufrou]%
30 \froufrouOrnament%
31 \end{ lateximage }%
32 \end{center}%
33 \egroup%
34\egroup%

```

```
26 \end{center}%
27 \egroup\par
28 \egroup
29
30 \nopagebreak[4]\@froufrouspaceafter\nopagebreak[4]
31
32 \@froufrouFixSpacingAfter
33
34 \nopagebreak[3]
35
36 \@afterheading
37 }
```

---

**File 194 l warp-ftcap.sty****§ 303 Package ftcap**

Pkg ftcap ftcap is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

---

**File 195 l warp-ftnright.sty****§ 304 Package ftnright**

Pkg ftnright ftnright is ignored.

for HTML output: Discard all options for l warp-ftnright:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

---

**File 196 l warp-fullminipage.sty****§ 305 Package fullminipage**

Pkg fullminipage fullminipage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

2 \newenvironment{fullminipage}[1]{}{}{}

---

**File 197 l warp-fullpage.sty****§ 306 Package fullpage**

Pkg fullpage fullpage is ignored.

**for HTML output:** Discard all options for **l warp-fullpage**:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

---

### File 198 **l warp-fullwidth.sty**

## § 307 Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

Pkg **fullwidth** **fullwidth** is emulated.

A minipage is used, of no HTML width.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]

```
2 \newenvironment*{fullwidth}[1][]{%
3 \minipage{fullwidth}%
4 \minipage{\linewidth}%
5 }%
6 {%
7 \endminipage%
8 }
```

---

### File 199 **l warp-fvextra.sty**

## § 308 Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

Pkg **fvextra** **fvextra** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]

Ignored are highlight, showtabs, obeytabs, tab, tabcolor. Also ignored are all options regarding line breaking except breaklines, which is emulated as true.

tabsize is honored.

If line numbers on the right side are used along with breaklines, the line numbers will not be aligned.

```
2
3 \define@booleankey{FV}{obeytabs}%
4 % {\let\FV@ObeyTabsInit\relax\let\relax\relax}%
5 % {\let\relax\relax\let\let\let\relax}%
6 % {\let\relax\relax\let\let\relax}%
7
8 \define@key{FV}{tabcolor}%
9 {}
```

```
10
11 \define@key{FV}{tab}{}
12
13 \define@booleankey{FV}{showtabs}%
14 % {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
15 {\let\FV@TabChar\relax}
16 {\let\FV@TabChar\relax}
17
18 \newbool{LWR@FV@breaklines}
19
20 \define@booleankey{FV}{breaklines}%
21 {\FV@BreakLinesfalse
22 \booltrue{LWR@FV@breaklines}
23 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
24 {\FV@BreakLinesfalse
25 \boolfalse{LWR@FV@breaklines}
26 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
27 % \fvset{breaklines}
28
29 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
30 \fvset{breakanywheresymbolpre={}}
31
32 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
33 \fvset{breakanywheresymbolpost={}}
34
35 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
36 \fvset{breakbeforesymbolpre={}}
37
38 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
39 \fvset{breakbeforesymbolpost={}}
40
41 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
42 \fvset{breakaftersymbolpre={}}
43
44 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
45 \fvset{breakaftersymbolpost={}}
46
47 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
48
49 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
50
51 \fvset{breaksymbolleft={}}
52
53 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
54 \fvset{breaksymbolright={}}
55
56 \def\FV@ListProcessLine@NoBreak#1{%
57 % \hbox to \hsize{%
58 % \kern\leftmargin
59 % \hbox to \linewidth{%
60 % \FV@LeftListNumber%
61 % \FV@LeftListFrame%
62 % \FancyVerbFormatLine{%
63 % \FancyVerbHighlightLine{%
64 % \FV@ObeyTabs{\FancyVerbFormatText{#1}}}}}}}\hss
```

```
65 \FV@RightListFrame%
66 \FV@RightListNumber%
67 % }%
68 % \hss}%
69 \null\par% lwarp
70 }
71
72
73 \newcommand*{\LWR@FV@linethensep}{%
74 \ifbool{\LWR@FV@breaklines}{%
75 {\theFancyVerbLine\kern\FV@NumberSep}%
76 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
77 }%
78
79 \newcommand*{\LWR@FV@septhenline}{%
80 \ifbool{\LWR@FV@breaklines}{%
81 {\kern\FV@NumberSep\theFancyVerbLine}%
82 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
83 }%
84
85 \xpatchcmd{\FV@Numbers@left}{%
86 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
87 {\LWR@FV@linethensep}%
88 {}%
89 {\LWR@patcherror{fvextra}{FV@Numbers@left A}}%
90
91 \xpatchcmd{\FV@Numbers@left}{%
92 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
93 {\LWR@FV@linethensep}%
94 {}%
95 {\LWR@patcherror{fvextra}{FV@Numbers@left B}}%
96
97 \xpatchcmd{\FV@Numbers@left}{%
98 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
99 {\LWR@FV@linethensep}%
100 {}%
101 {\LWR@patcherror{fvextra}{FV@Numbers@left C}}%
102
103 \xpatchcmd{\FV@Numbers@right}{%
104 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
105 {\LWR@FV@septhenline}%
106 {}%
107 {\LWR@patcherror{fvextra}{FV@Numbers@right A}}%
108
109 \xpatchcmd{\FV@Numbers@right}{%
110 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}%
111 {\LWR@FV@septhenline}%
112 {}%
113 {\LWR@patcherror{fvextra}{FV@Numbers@right B}}%
114
115 \xpatchcmd{\FV@Numbers@right}{%
116 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}%
117 {\LWR@FV@linethensep}%
118 {}%
119 {\LWR@patcherror{fvextra}{FV@Numbers@right C}}%
```

```

120
121 \xpatchcmd{\FV@Numbers@both}
122 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
123 {\LWR@FV@linethensep}
124 {}
125 {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
129 {\LWR@FV@linethensep}
130 {}
131 {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
135 {\LWR@FV@linethensep}
136 {}
137 {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
138
139 \xpatchcmd{\FV@Numbers@both}
140 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
141 {\LWR@FV@septhenline}
142 {}
143 {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146 {\hbox to\z@\{\kern\FV@NumberSep\theFancyVerbLine\hss\}}
147 {\LWR@FV@septhenline}
148 {}
149 {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152 {\hbox to\z@\{\hss\theFancyVerbLine\kern\FV@NumberSep\}}
153 {\LWR@FV@linethensep}
154 {}
155 {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

File 200 **l warp-fwlw.sty**

§ 309      Package **fwlw**

Pkg fwlw fwlw is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fwlw}

```

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

---

**File 201 l warp-gensymb.sty****§ 310 Package gensymb**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg gensymb gensymb works as-is for SVG math, and uses the MATHJAX package.

**for HTML output:** 1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}
```

---

**File 202 l warp-gentombow.sty****§ 311 Package gentombow**

Pkg gentombow gentombow is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

```
2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}
```

---

**File 203 l warp-geometry.sty****§ 312 Package geometry**

(Emulates or patches code by HIDEO UMEKI.)

Pkg geometry geometry is preloaded by l warp, but must be nullified as seen by the user's source code.

**for HTML output:** Discard all options for l warp-geometry:

```
1 \LWR@ProvidesPackageDropA{geometry}[2018/04/16]
```

If geometry is never loaded by the user, it will be loaded by l warp \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{\LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `l warp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@optionlist{\currname.\@currext}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*\geometry}[1]{}%
7 \renewcommand*\newgeometry}[1]{}%
8 \renewcommand*\restoregeometry{}%
9 \renewcommand*\savegeometry}[1]{}%
10 \renewcommand*\loadgeometry}[1]{}%
```

---

#### File 204 **l warp-ghsystem.sty**

### § 313 Package **ghsystem**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg `ghsystem` `ghsystem` is patched for use by `l warp`.

⚠ `\ghspic` images Images must be provided in SVG format, unless `JPG` is specified. It is recommended to create a local `images` directory, copy into it the relevant PDF `ghsystem` images, and then convert them with

Enter ⇒ `l warpmk pdftosvg images/*.pdf`

**for HTML output:** 1 `\LWR@ProvidesPackagePass{ghsystem}[2020/02/17]`

```
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless #1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9 __ghsystem_includegraphics:xn
10 {
11 scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
12 width = 1.25cm
13 \exp_not:V \l__ghsystem_picture_includegraphics_tl
14 }
15 { \ghsystem_ #1 . \l__ghsystem_picture_type_tl }
16 }
17
18 \ExplSyntaxOff
```

---

File 205 **l warp-gindex.sty**

§ 314 Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

Pkg gindex gindex is patched for use by l warp.

See section 8.6.15.

for HTML output: 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the l warp core looks for the tokens instead of their expanded contents, since the \*.ind files will contain \indexpagessep and \indexrangesep instead of their literal contents. Finally, l warp is told of the gindex macros.

```
2 \AtBeginDocument{
3 \robustify{\indexpagessep}
4 \robustify{\indexrangesep}
5 \renewcommand*\{IndexPageSeparator}{\indexpagessep}
6 \renewcommand*\{IndexRangeSeparator}{\indexrangesep}
7 }
```

\hyperindexref is added:

```
8 \def\addindexitem#1#2{%
9 \indexflushitem
10 \gix@getspecial#1\indexspecial\indexspecial@@\indexitem{\hyperindexref{#2}}}
11
12 \def\addindexsubitem#1#2{%
13 \stepcounter{indexsubitems}%
14 \gix@getspecial#1\indexspecial\indexspecial@@\indexsubitem{\hyperindexref{#2}}}
15
16 \def\addindexsubsubitem#1#2{%
17 \gix@getspecial#1\indexspecial\indexspecial@@\indexsubsubitem{\hyperindexref{#2}}}
```

Uses a <div> of class indexheading:

```
18 \renewcommand\indexheading[1]{%
19 \begin{BlockClass}{indexheading}
20 \MakeUppercase{#1}%
21 \end{BlockClass}
22 }
```

---

File 206 **lwarf-gloss.sty**

§ 315 Package **gloss**

*(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)*

Pkg **gloss** **gloss** is patched for use by **lwarf**.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\BaseJobname is added to the label in case **xr** or **xr-hyper** are used.

```
2 \xpatchcmd{\gls@gloss@iii}{\thepage}{\theLWR@previousautopagelabel}{}{%
 \LWR@patcherror{gloss}{gls@gloss@iii}}%
7
8 \def\gls@page@i#1#2{%
9 \endgroup%
10 \global\@namedef{glsp@#1}{\nameref{\BaseJobname-autopage-#2}}}%
```

---

File 207 **lwarf-glossaries.sty**

§ 316 Package **glossaries**

*(Emulates or patches code by NICOLA L.C. TALBOT.)*

Pkg **glossaries**  
**processing glossaries**  
 Opt **GlossaryCmd**

Default: **makeglossaries**

Opt [**lwarfmk**] **printglossary**  
 Opt [**lwarfmk**] **htmlglossary**

**⚠ makeglossaries not found**

**lwarfmk** has the commands **lwarfmk printglossary** and **lwarfmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package's **makeglossaries** program.

The shell command to execute is set by the **lwarf** option **GlossaryCmd**, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
 GlossaryCmd={perl makeglossaries},
] {lwarf}
```

**xindy language** To set the language to use for processing glossaries with **xindy**:

---

```
\usepackage[
 GlossaryCmd={makeglossaries -L english},
] {lwarf}
```

Other options for *makeglossaries* may be set as well.

#### placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

##### **Numbered section, on its own HTML page:**

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

##### **Unnumbered section, inline with the current HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

##### **Unnumbered section, on its own HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarf`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\nameref`s in `HTML`, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

#### print/HTML versions

The print and `HTML` versions of the glossary differ in their internal page numbers. Separate commands for generating print and `HTML` glossaries are used, even though the page number is currently ignored.

**for HTML output:**

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix TOC pointing to the previous page:

```
7 \renewcommand*{\@pglossarysection}[2]{%
8 \glsclearpage
9 \LWR@phantomsection
10 \ifempty{\@glossarysecstar}{%
11 \csname @@glossarysec\endcsname{#2}%
12 }{%
13 \csname @@glossarysec\endcsname{#2}%
14 }%
```

In the original, the TOC entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the TOC entry is made after the section is created:

```

15 \csname@@glossarysec\endcsname*{#2}%
16 \@gls@toc{#1}{\@glossarysec}% Moved after the previous line.
17 }%
18 \@@glossaryseclabel
19 }
```

lwarf's sectioning commands cannot handle robust macros when splitting HTML into named filenames. `glossaries` uses `\translate` in sectioning names, and `\translate` is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of `\translatelet`.

```

20 \newcommand*\LWR@comp@glossaryname{\translate{Glossary}}
21
22 \ifdefstreq{\glossaryname}{\LWR@comp@glossaryname}{
23 \translatelet\LWR@translatetemp{Glossary}
24 \edef\glossaryname{\LWR@translatetemp}
25 }{}%
26
27 \newcommand*\LWR@comp@acronymname{\translate{Acronym}}
28
29 \ifdefstreq{\acronymname}{\LWR@comp@acronymname}{
30 \translatelet\LWR@translatetemp{Acronym}
31 \edef\acronymname{\LWR@translatetemp}
32 }{}%
33
34 \newcommand*\LWR@comp@glssymbolsgroupname{\translate{Symbols (glossaries)}}
35
36 \ifdefstreq{\glssymbolsgroupname}{\LWR@comp@glssymbolsgroupname}{
37 \translatelet\LWR@translatetemp{Symbols (glossaries)}
38 \edef\glssymbolsgroupname{\LWR@translatetemp}
39 }{}%
40
41 \newcommand*\LWR@comp@glsnumbersgroupname{\translate{Numbers (glossaries)}}
42
43 \ifdefstreq{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
44 \translatelet\LWR@translatetemp{Numbers (glossaries)}
45 \edef\glsnumbersgroupname{\LWR@translatetemp}
46 }{}%
```

File 208 **lwarf-gmeometric.sty**

§ 317 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]  
2 \RequirePackageWithOptions{geometry}

---

File 209 **l warp-graphics.sty**

§ 318      Package **graphics**

(Emulates or patches code by D. P. CARLISLE.)

Pkg **graphics** **graphics** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass[graphics][2020/08/30]

§ 318.1 **Graphics extensions**

\DeclareGraphicsExtensions {\{list\}}

\AtBeginDocument allow SVG files instead of PDF:

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a `lateximage`, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto{\LWR@restoreorigformatting}{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}}%
10 }
11 \else% \ifpdf
12 \ifXeTeX
13 \appto{\LWR@restoreorigformatting}{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}}%
15 }
16 \else
17 \appto{\LWR@restoreorigformatting}{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}}%
19 }
20 \fi
21 \fi
```

## § 318.2 Length conversions and graphics options

**⚠ whitespace** A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to "inlineimage" unless changed by a `class=xyx` option.

```

22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*{\LWR@igwidthstyle}{}%
25 \newcommand*{\LWR@igheightstyle}{}%
26 \newcommand*{\LWR@igorigin}{}%
27 \newcommand*{\LWR@igangle}{}%
28 \newcommand*{\LWR@igxscale}{1}
29 \newcommand*{\LWR@igyscale}{1}
30
31 \newbool{\LWR@igkeepaspectratio}
32 \boolfalse{\LWR@igkeepaspectratio}
33
34 \newcommand*{\LWR@igclass}{inlineimage}

35 \newcommand*{\LWR@igalt}{\ImageAltText}
```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}{%
39 {%
```

Default to use the converted fixed length given:

```
40 \renewcommand*{\LWR@igwidthstyle}{width:\LWR@printlength{\LWR@igwidth}}%
```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}{%
42 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}{%
45 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes em
46 {}% not em
47 \IfEndWith{#1}{\%}{%
48 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes percent
49 {}% not percent
50 \IfEndWith{#1}{px}{%
51 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes px
52 {}% not px
```

---

```
53 }{}% end of length > 0pt
54 }
```

If an optional height was given, set an HTML style:

```
55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}{%
58 {%
```

Default to use the converted fixed length given:

```
59 \renewcommand*{\LWR@igheightstyle}{%
60 height:\LWR@printlength{\LWR@igheight} % extra space
61 }%
```

If ex or em dimensions were given, use those instead:

```
62 \IfEndWith{#1}{ex}{%
63 \renewcommand*{\LWR@igheightstyle}{height:#1}%
64 {} not ex
65 \IfEndWith{#1}{em}{%
66 \renewcommand*{\LWR@igheightstyle}{height:#1}%
67 {} not em
68 \IfEndWith{#1}{\%}{%
69 \renewcommand*{\LWR@igheightstyle}{height:#1}%
70 {} not percent
71 \IfEndWith{#1}{px}{%
72 \renewcommand*{\LWR@igheightstyle}{height:#1}%
73 {} not px
74 }{}% end of length > 0pt
75 }
```

Handle `keepaspectratio` key:

```
76 \define@key{igraph}{keepaspectratio}[false]{%
77 \booltrue{\LWR@igkeepaspectratio}%
78 }
```

Handle `origin` key:

```
79 \define@key{igraph}{origin}[c]{%
80 \renewcommand*{\LWR@igorigin}{#1}%
81 }
```

Handle `angle` key:

```
82 \define@key{igraph}{angle}{\renewcommand*{\LWR@igangle}{#1}}
```

Handle `class` key:

```
83 \define@key{igraph}{class}{\renewcommand*{\LWR@igclass}{#1}}
```

Handle alt key:

```
84 \define@key{igraph}{alt}{\renewcommand*{\LWR@igalt}{#1}}
```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```
85 \define@key{igraph}{scale}{%
86 \ifthenelse{\equal{#1}{1}}{}{%
87 \PackageWarning{lwarp}{%
88 It is recommended to use ‘‘[width=xx\protect\linewidth]’’\MessageBreak
89 instead of ‘‘[scale=yy]’’,%
90 }%
91 }%
92 \renewcommand*{\LWR@igxscale}{#1}%
93 \renewcommand*{\LWR@igyscale}{#1}%
94 }
```

Numerous ignored keys:

```
95 \define@key{igraph}{bb}{}%
96 \define@key{igraph}{bbllx}{}%
97 \define@key{igraph}{bbly}{}%
98 \define@key{igraph}{bburx}{}%
99 \define@key{igraph}{bbury}{}%
100 \define@key{igraph}{natwidth}{}%
101 \define@key{igraph}{nateheight}{}%
102 \define@key{igraph}{hiresbb}[true]{}%
103 \define@key{igraph}{viewport}{}%
104 \define@key{igraph}{trim}{}%
105 \define@key{igraph}{totalheight}{}%
106 \define@key{igraph}{clip}[true]{}%
107 \define@key{igraph}{draft}[true]{}%
108 \define@key{igraph}{type}{}%
109 \define@key{igraph}{ext}{}%
110 \define@key{igraph}{read}{}%
111 \define@key{igraph}{command}{}%
```

New in v1.1a:

```
112 \define@key{igraph}{quite}{}%
113 \define@key{igraph}{page}{}%
114 \define@key{igraph}{pagebox}{}%
115 \define@key{igraph}{interpolate}[true]{}%
```

New in v1.1b:

```
116 \define@key{igraph}{decodearray}{}%
```

### § 318.3 Printing HTML styles

\LWR@rotstyle {*prefix*} {*degrees*}

Prints the rotate style with the given prefix.

*prefix* is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:rotate style.

```
117 \newcommand*{\LWR@rotstyle}[2]{%
118 \edef\LWR@tempone{\#2}%
119 \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
120 #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
121 }
```

\LWR@scalestyle {*prefix*} {*xscale*} {*yscale*}

Prints the scale style with the given prefix.

*prefix* is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:scale style.

```
122 \newcommand*{\LWR@scalestyle}[3]{%
123 #1transform:scale(#2,#3);
124 }
```

### § 318.4 \includegraphics

\LWR@opacity For HTML, used only for \includegraphics.

\LWR@opacity may be set by the transparent package.

```
125 \def\LWR@opacity{1}
```

\LWR@imagesizebox Used to determine the actual image size if needed.

```
126 \newsavebox{\LWR@imagesizebox}
```

\LWR@HTML@Gin@setfile {*w*} {*h*} {*filename*} Sets the parsed filename for HTML output.

```
127 \newcommand*{\LWR@HTML@Gin@setfile}[3]{%
128 \xdef\LWR@parsedfilename{\#3}%
129 }
```

Key [Gin] class css class for the image.

Define the new class key for the print-mode version of \includegraphics, which is enabled inside a \teximage.

```
130 \AtBeginDocument{
131 \define@key{Gin}{class}{}
132 \define@key{Gin}{alt}{}
133 }
```

\LWR@replaceEPSSVG

Usually, references to EPS files become SVG files, but if the epstopdf package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```

134 \AtBeginDocument{
135 \@ifpackagelloaded{epstopdf}
136 {
137 \newcommand*\{\LWR@replaceEPSSVG}{}
138 }{%
139 \newcommand*\{\LWR@replaceEPSSVG}{%
140 \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
141 \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
142 }
143 }%
144 }
```

\* [*<2: options>*] [*<3: options>*] [*<4: filename>*]

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

145 \newcommand*\{\LWR@ig@useactualimagesize}[4]{%
146 \begingroup%
147 \LWR@restoreorigformatting%
148 \ifpdf%
149 \appto\LWR@restoreorigformatting{%
150 \DeclareGraphicsExtensions{%
151 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
152 }%
153 }%
154 \else% \ifpdf
155 \ifXeTeX%
156 \appto\LWR@restoreorigformatting{%
157 \DeclareGraphicsExtensions{%
158 .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
159 }%
160 }%
161 \else%
162 \appto\LWR@restoreorigformatting{%
163 \DeclareGraphicsExtensions{%
164 .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
165 }%
166 }%
167 \fi%
168 \fi% \ifpdf
```

For a word processor, do not use rotation:

```

169 \ifbool{FormatWP}{\define@key{Gin}{angle}{}{}}{%
170 \IfBooleanTF{#1}{%
171 \% starred
172 \IfValueTF{#3}{%
173 \%
174 \global\sbox{\LWR@imagesizebox}{%
175 \LWR@originincludegraphics*[#2][#3]{#4}%
176 }%
177 }%
178 \%
179 \IfValueTF{#2}{%
180 \%
```

```

181 \global\sbox{\LWR@imagesizebox}{%
182 \LWR@originincludegraphics*[#2]{#4}%
183 }%
184 }{%
185 \global\sbox{\LWR@imagesizebox}{%
186 \LWR@originincludegraphics*[#4]%
187 }%
188 }%
189 }%
190 }% starred
191 {% not starred
192 \IfValueTF{#3}%
193 {%
194 \global\sbox{\LWR@imagesizebox}{%
195 \LWR@originincludegraphics[#2][#3]{#4}%
196 }%
197 }%
198 {%
199 \IfValueTF{#2}%
200 {%
201 \global\sbox{\LWR@imagesizebox}{%
202 \LWR@originincludegraphics[#2]{#4}%
203 }%
204 }%
205 \global\sbox{\LWR@imagesizebox}{%
206 \LWR@originincludegraphics[#4]%
207 }%
208 }%
209 }%
210 }% not starred
211 \endgroup%
212 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
213 \global\renewcommand*{\LWR@igwidthstyle}{%
214 width:\LWR@printlength{\LWR@igwidth}%
215 }%
216 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
217 \global\renewcommand*{\LWR@igheightstyle}{%
218 height:\LWR@printlength{\LWR@igheight}%
219 }%
220 }

```

\LWR@ig@htmltag For the **HTML** reference, add the `graphicspath`, `filename`, `extension`, `alt` tag, `style`, and `class`.

```

221 \newcommand*{\LWR@ig@htmltag}{%
222 img\LWR@indentHTML%
223 src=\textquotedbl%
224 \detokenize\expandafter{\LWR@parsedfilename}%
225 \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

226 \ifthenelse{%
227 \NOT\equal{\LWR@igwidthstyle}{} \OR

```

```

228 \NOT\equal{\LWR@igheightstyle}{} \OR
229 \NOT\equal{\LWR@igorigin}{} \OR
230 \NOT\equal{\LWR@igangle}{} \OR
231 \NOT\equal{\LWR@igxscale}{1} \OR
232 \NOT\equal{\LWR@igyscale}{1}
233 }%
234 {%
235 style=\textquotedbl\LWR@indentHTML
236 \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{} }{%
237 {\LWR@igwidthstyle;\LWR@indentHTML}{}%
238 } \ifthenelse{\NOT\equal{\LWR@igheightstyle}{} }{%
239 {\LWR@igheightstyle;\LWR@indentHTML}{}%
240 } \ifthenelse{\NOT\equal{\LWR@igorigin}{} }{%
241 {%
242 transform-origin: \LWR@originnames{\LWR@igorigin};%
243 \LWR@indentHTML%
244 }%
245 } \ifthenelse{\NOT\equal{\LWR@igangle}{} }{%
246 {%
247 \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
248 \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
249 \LWR@rotstyle{}{\LWR@igangle }\LWR@indentHTML
250 }%
251 } \ifthenelse{%
252 \NOT\equal{\LWR@igxscale}{1}\OR%
253 \NOT\equal{\LWR@igyscale}{1}%
254 }%
255 {%
256 \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
257 \LWR@indentHTML
258 \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
259 \LWR@indentHTML
260 \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
261 \LWR@indentHTML
262 }%
263 %
264 \ifthenelse{\NOT\equal{\LWR@opacity}{1}}{%
265 {opacity:\LWR@opacity;\LWR@indentHTML}{}%
266 }%
267 \textquotedbl\LWR@indentHTML%
268 }%

```

Set the class and alt tag:

```

269 class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
270 alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl\ \LWR@orignewline%
271 }% end of image tags

```

\LWR@includegraphicsb \* [<2: options>] [<3: options>] [<4: filename>]  
 graphics syntax is \includegraphics \* [<llx, lly>] [<urx, ury>] {<filename>}  
 graphicx syntax is \includegraphics [<key values>] {<filename>}  
 If #3 is empty, only one optional argument was given, thus graphicx syntax.

If using `\epsfig` or `\psfig` from the `epsfig` package, #4 will be `\LWR@epsfig@filename`, which will have been set by the `file` or `figure` keys. Therefore, #4 must not be used until after the keys have been processed.

```
272 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
273 {%
```

Start the image tag on a new line, allow PDF output word wrap:

```
274 \LWR@origtilde \LWR@orignewline%
```

Temporarily compute `\ linewidth`, `\ textwidth`, `\ textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```
275 \begin{\LWR@setvirtualpage}%
```

For correct em sizing during the width and height conversions:

```
276 \large%
```

Temporarily prevent underfull `\hbox` warnings.

```
277 \hbadness=10000\relax%
```

Reset some defaults, possibly will be changed below if options were given:

```
278 \setlength{\LWR@igwidth}{0pt}%
279 \setlength{\LWR@igheight}{0pt}%
280 \renewcommand*\LWR@igwidthstyle{}%
281 \renewcommand*\LWR@igheightstyle{}%
282 \renewcommand*\LWR@igorigin{}%
283 \renewcommand*\LWR@igangle{}%
284 \renewcommand*\LWR@igxscale{1}%
285 \renewcommand*\LWR@igyscale{1}%
286 \renewcommand*\LWR@igclass{inlineimage}%
287 \boolfalse{\LWR@igkeepaspectratio}%

288 \ifdefvoid{\LWR@ThisAltText}{%
289 \edef\LWR@igalt{\ImageAltText}%
290 }{%
291 \edef\LWR@igalt{\LWR@ThisAltText}%
292 }%
```

If #3 is empty, only one optional argument was given, thus `graphicx` syntax:

```
293 \IfValueF{#3}{%
294 \IfValueTF{#2}{%
295 {\setkeys{igraph}{#2}}%
296 {\setkeys{igraph}{}}
297 }%
```

Fully expand and detokenize the filename, changing the file extension to `.svg` if necessary.

Note that uppercase file extensions are detected and reported as lowercase, so `lwarp` can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```
298 \begingroup%
299 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
300 \edef\LWR@tempone{#4}%
```

PDF extensions are removed to allow a search for another graphics format such as SVG or PNG.

```
301 \StrSubstitute{\LWR@tempone}{.pdf}{}[\LWR@tempone]%
302 \StrSubstitute{\LWR@tempone}{.PDF}{}[\LWR@tempone]%
303 \LWR@replaceEPSSVG%
304 \xdef\LWR@parsedfilename{\LWR@tempone}%
305 \Ginclusion@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
306 \endgroup%
307 \filename@parse{\LWR@parsedfilename}%
```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```
308 \StrSubstitute{\LWR@parsedfilename}{//}{/}[\LWR@parsedfilename]%
309 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%
```

If formatting for a word processor, or if using `keepaspectratio`, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```
310 \ifboolexpr{
311 bool {FormatWP} or
312 bool {\LWR@igkeepaspectratio}
313 }{\LWR@ig@useactualimagesize{\#1}{\#2}{\#3}{\#4}}{}}
```

Create the HTML reference with the `graphicspath`, filename, extension, alt tag, style, and class:

```
314 \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
315 \LWR@href{\LWR@parsedfilename}%
316 {%
317 start of href
318 \LWR@traceinfo{\LWR@includegraphicsb: about to \LWR@htmltag}%
319 \LWR@htmltag{\LWR@ig@htmltag}%
320 }%
321 end of href
```

Return to original page size and font size:

```
320 \end{\LWR@setvirtualpage}%
```

Clear the single-use alt text:

```
321 \gdef\LWR@ThisAltText{}%
322 \LWR@traceinfo{\LWR@includegraphicsb done}%
323 }
```

`\includegraphics [⟨key=val⟩] {⟨filename⟩}`

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```
324 \AtBeginDocument{
325
326 \LWR@traceinfo{Patching includegraphics.}
327
328 \LetLtxMacro{\LWR@origincludegraphics}{\includegraphics}
```

---

```
329 \renewrobustcmd*{\includegraphics}
330 {%
```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
331 \LWR@traceinfo{includegraphics}%
332 \LWR@ensuredoingapar%
333 \LWR@includegraphicsb%
334 }% includegraphics
335 }% AtBeginDocument
```

### § 318.5 Boxes

\LWR@rotboxorigin Holds the origin key letters.

```
336 \newcommand*{\LWR@rotboxorigin}{}%
```

\LWR@originname {⟨letter⟩}

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

```
337 \newcommand*{\LWR@originname}[1]{%
338 \ifthenelse{\equal{#1}{t}}{top}{%
339 \ifthenelse{\equal{#1}{b}}{bottom}{%
340 \ifthenelse{\equal{#1}{c}}{center}{%
341 \ifthenelse{\equal{#1}{l}}{left}{%
342 \ifthenelse{\equal{#1}{r}}{right}{%
343 }}
```

\LWR@originnames {⟨letters⟩}

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```
344 \newcommand*{\LWR@originnames}[1]{%
345 \StrChar{#1}{1}[\LWR@strresult]%
346 \LWR@originname{\LWR@strresult}%
347 \StrChar{#1}{2}[\LWR@strresult]%
348 \LWR@originname{\LWR@strresult}%
349 }
```

Handle the origin key for \rotatebox:

```
350 \define@key{krotbox}{origin}{%
351 \renewcommand*{\LWR@rotboxorigin}{#1}%
352 }
```

These keys are ignored:

```
353 \define@key{krotbox}{x}{}
354 \define@key{krotbox}{y}{}
355 \define@key{krotbox}{units}{}
```

\rotatebox [⟨keyval list⟩] {⟨angle⟩} {⟨text⟩}

```
356 \AtBeginDocument{
```

The HTML version:

```
357 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%
```

Reset the origin to “none-given”:

```
358 \renewcommand*\LWR@rotboxorigin{}
```

Process the optional keys, which may set \LWR@rotateboxorigin:

```
359 \setkeys{krotbox}{#1}%
```

Select inline-block so that HTML will transform this span:

```
360 \LWR@htmltagc{%
361 span\LWR@indentHTML
362 style=\textquotedbl\LWR@indentHTML
363 display: inline-block;\LWR@indentHTML}
```

If an origin was given, translate and print the origin information:

```
364 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}{%
365 {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
366 {}%}
```

Print the rotation information:

```
367 \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
368 \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
369 \LWR@rotstyle{}{#2}\textquotedbl\LWR@orignewline%
370 }\LWR@orignewline%
```

Print the text to be rotated:

```
371 \begin{LWR@nestspan}%
372 #3%
```

Close the span:

```
373 \LWR@htmltagc{/span}%
374 \end{LWR@nestspan}%
375 }
```

The high-level interface:

```
376 \LWR@formatted{rotatebox}%
377
378 }% AtBeginDocument
```

```
\scalebox {<h-scale>} [<v-scale>] {<text>}
```

```
379 \AtBeginDocument{
```

The HTML version:

```
380 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
381 \LWR@htmltagc{%
382 span\LWR@indentHTML
383 style=\textquotedbl\LWR@indentHTML
384 display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
385 \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
386 \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
387 \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
388 \textquotedbl\LWR@orignewline
389 }\LWR@orignewline%
```

Print the text to be scaled:

```
390 \begin{\LWR@nestspan}%
391 #3%
```

Close the span:

```
392 \LWR@htmltagc{/span}%
393 \end{\LWR@nestspan}%
394 }
```

The high-level interface:

```
395 \LWR@formatted{scalebox}
396
397 }% AtBeginDocument
```

```
\reflectbox {\langle text \rangle}
```

```
398 \AtBeginDocument{
399
400 \newcommand{\LWR@HTML@reflectbox}[1]{%
401 \scalebox{-1}[1]{#1}%
402 }% \reflectbox
403
404 \LWR@formatted{reflectbox}
405
406 }% AtBeginDocument
```

```
\resizebox {\langle h-length \rangle} {\langle v-length \rangle} {\langle text \rangle}
```

Simply prints its text argument.

```
407 \AtBeginDocument{
408
409 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
410 #4%
411 }
412
413 \LWR@formatted{resizebox}
414
415 }% AtBeginDocument
```

---

**File 210 l warp-graphicx.sty****§ 319 Package graphicx**

Pkg **graphicx** **graphicx** is emulated.

**graphicx** loads **graphics**, which also loads **l warp-graphics**, which remembers the original graphics definitions for use inside a **lateximage**, and then patches them **\AtBeginDocument** for **HTML** output.

**l warp-graphics** handles the syntax of either **graphics** or **graphicx**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]

---

**File 211 l warp-grffile.sty****§ 320 Package grffile**

Pkg **grffile** **grffile** is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each **PDF** image for print mode should be accompanied by an **SVG**, **PNG**, or **JPG** version for **HTML**.

**l warp-grffile** now exists as a placeholder since **grffile** used to be emulated by **l warp**, and thus older versions of **l warp-grffile** may exist and should be overwritten by this newer version.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]

---

**File 212 l warp-grid.sty****§ 321 Package grid**

Pkg **grid** **grid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

```
2 \newenvironment*{gridenv}{}{}
```

---

**File 213 l warp-grid-system.sty****§ 322 Package grid-system**

*(Emulates or patches code by MARCUS BITZL.)*

Pkg grid-system grid-system is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

```
2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}
3
4 \ifdef{\endrow}{%
5 \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}%
6 }%
7
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}
```

---

**File 214 l warp-gridset.sty****§ 323 Package gridset**

Pkg gridset gridset is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

```
2 \newcommand*{\gridbase}{}%
3 \newcommand*{\gridinterval}{}%
4 \newcommand*{\SavePos}[1]{}%
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*{\vskipnextgrid}{}%
10 \newcommand*{\thegridinfo}[1]{\thegridinfo}%
11 \newcommand*{\theposinfo}[1]{\theposinfo}%
12 \newcommand*{\theypos}[1]{\theypos}
```

---

**File 215 l warp-hang.sty****§ 324 Package hang**

*(Emulates or patches code by ANDREAS NOLDA.)*

Pkg hang hang is emulated.

for HTML output 1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

```
2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*{\LWR@findhangingleftmargin}{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14 \LWR@findhangingleftmargin%
15 \BlockClass[%
16 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17 \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
18]%
19 {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
26 \renewcommand*{\LWR@printopenlist}{%
27 \LWR@findhangingleftmargin%
28 ul style=\textquotedbl%
29 \LWR@print@mbox{list-style-type:none;} % extra space
30 \LWR@print@mbox{%
31 margin-left:\LWR@printlength{\LWR@templengthone}%
32 } ; % extra space
33 \LWR@print@mbox{%
34 text-indent:-\LWR@printlength{\hangingindent}%
35 }%
36 \textquotedbl%
37 }%
38 \LetLtxMacro{\item}{\LWR@itemizeitem}%
39 \list{}{%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}
48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52 \BlockClass[%
```

---

```

53 \LWR@findhangingleftmargin%
54 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55 \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
56]{\labeledpar}#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

---

File 216 **l warp-hanging.sty**

§ 325 Package **hanging**

Pkg **hanging** **hanging** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \@ifclassloaded{memoir}{%
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}}

```

\hangpara {\<indent>} {\<afternum>}

Use **hangparas** instead.

```
9 \newcommand*{\hangpara}[2]{}
```

Env **hangparas** {\<indent>} {\<afternum>}

```

10 \newenvironment*{hangparas}[2]
11 {%
12 \BlockClass[%
13 \LWR@print@mbox{margin-left:\LWR@printlength{\#1}} ; %
14 \LWR@print@mbox{text-indent:-\LWR@printlength{\#1}}%
15]%
16 {hangingpar}%
17 }
18 {\endBlockClass}

```

Env **hangpunct**

```
19 \newenvironment*{hangpunct}
```

---

```

20 {\BlockClass{hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{`}
24 \newcommand{\nhrq}{`}

```

---

File 217 **lwarp-hepunits.sty**

§ 326 Package **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

Pkg hepunits hepunits is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@siccmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}

```

---

```

37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\evc\electronvoltc}
45 \CustomizeMathJax{\let\evcsq\electronvoltsq}
46
47 \ifx\@HEPopt\noprefixcmds\empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\,eV}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\,eV}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\,eV}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\,eV}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\,eV}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\,eVc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\,eVc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\,eVc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\,eVc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\,eVc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\,eVcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\,eVcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\,eVcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\,eVcsq}}
62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\,eVcsq}}
63 \fi
64 \end{warpMathJax}

```

---

File 218 **l warp-hhline.sty**

§ 327      Package **hhline**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg **hhline** **hhline** is patched for use by **l warp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

```

2 \newrobustcmd*\LWR@HTML@hhline}[1]{%
3 \edef\LWR@tempone{\detokenize\expandafter{\#1}}%
4 \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}%
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For MATHJAX. A simple \hline is used.

---

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

---

File 219 **lwarp-hhtensor.sty**

§ 328 Package **hhtensor**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg hhtensor **hhtensor** is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

```

2 \begin{warpMathJax}
3 \iftensor@bold
4 \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{\#1}}}
5 \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{\#1}}}
6 \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{\#1}}}
7 \else
8 \iftensor@underline
9 \CustomizeMathJax{\newcommand{\vec}[1]{\text{\textnormal{\textsf{\texttt{\#1}}}}}}
10 \CustomizeMathJax{\newcommand{\matr}[1]{\text{\textnormal{\textsf{\texttt{\#1}}}}}}
11 \CustomizeMathJax{\newcommand{\tens}[2]{\text{\textnormal{\textsf{\texttt{\#1}}}}}}
12 \underset{
13 \raise{.5ex}{\underset{\#2}{\sim}}
14 }{\#1}
15 }
16 \else
17 \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{\#1}}}}
18 \CustomizeMathJax{\newcommand{\tens}[2]{\underset{
19 \underset{\#2}{\sim}
20 }{\#1}}}
21 }
22 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
27 \end{warpMathJax}

```

---

File 220 **lwarp-hypbmsec.sty**

§ 329 Package **hypbmsec**

Pkg hypbmsec **hypbmsec** is emulated by the **lwarp** core.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 221 **l warp-hypcap.sty**

§ 330 Package **hypcap**

Pkg hypcap **hypcap** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```
2 \newcommand*\capstart{}
3 \newcommand*\hypcapspace{}
4 \newcommand*\hypcapref[1]{}
5 \newcommand*\capstartfalse{}
6 \newcommand*\capstartrue{}
```

---

File 222 **l warp-hypdestopt.sty**

§ 331 Package **hypdestopt**

Pkg hypdestopt **hypdestopt** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 223 **l warp-hypernat.sty**

§ 332 Package **hypernat**

Pkg hypernat **hypernat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 224 **l warp-hyperref.sty**

§ 333 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE LATEX3 PROJECT.)

Pkg hyperref **hyperref** is emulated.

**for HTML output:** 1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed  
2 % \ProvidesPackage{l warp-#1-#2}% not allowed  
3 \PackageInfo{l warp}{%  
4 Using the l warp HTML version of package ‘hyperref’, \MessageBreak

5 and discarding options except backref, pagebackref.\MessageBreak  
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak  
7 do not attempt to patch lwarp's version of 'hyperref'.)\MessageBreak}

```
8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{a4paper}[]{}
13 \define@key{LWR@hyperref}{a5paper}[]{}
14 \define@key{LWR@hyperref}{b5paper}[]{}
15 \define@key{LWR@hyperref}{letterpaper}[]{}
16 \define@key{LWR@hyperref}{legalpaper}[]{}
17 \define@key{LWR@hyperref}{executivepaper}[]{}
18 \define@key{LWR@hyperref}{implicit}[]{}
19 \define@key{LWR@hyperref}{draft}[]{}
20 \define@key{LWR@hyperref}{final}[]{}
21 \define@key{LWR@hyperref}{setpagesize}[]{}
22 \define@key{LWR@hyperref}{debug}[]{}
23 \define@key{LWR@hyperref}{linktocpage}[]{}
24 \define@key{LWR@hyperref}{linktoc}[]{}
25 \define@key{LWR@hyperref}{extension}[]{}
26 \define@key{LWR@hyperref}{verbose}[]{}
27 \define@key{LWR@hyperref}{typexml}[]{}
28 \define@key{LWR@hyperref}{raiselinks}[]{}
29 \define@key{LWR@hyperref}{breaklinks}[]{}
30 \define@key{LWR@hyperref}{localanchorname}[]{}
31 \define@key{LWR@hyperref}{pageanchor}[]{}
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertexnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarkstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}

```

```
59 \define@key{LWR@hyperref}{anchor}{}{}
60 \define@key{LWR@hyperref}{cite}{}{}
61 \define@key{LWR@hyperref}{file}{}{}
62 \define@key{LWR@hyperref}{url}{}{}
63 \define@key{LWR@hyperref}{menu}{}{}
64 \define@key{LWR@hyperref}{run}{}{}
65 \define@key{LWR@hyperref}{linkbordercolor}{}{}
66 \define@key{LWR@hyperref}{anchorbordercolor}{}{}
67 \define@key{LWR@hyperref}{citebordercolor}{}{}
68 \define@key{LWR@hyperref}{filebordercolor}{}{}
69 \define@key{LWR@hyperref}{urlbordercolor}{}{}
70 \define@key{LWR@hyperref}{menubordercolor}{}{}
71 \define@key{LWR@hyperref}{runbordercolor}{}{}
72 \define@key{LWR@hyperref}{pagecolor}{}{}
73 \define@key{LWR@hyperref}{baseurl}{}{}
74 \define@key{LWR@hyperref}{linkfileprefix}{}{}
75 \define@key{LWR@hyperref}{pdfpagetransition}{}{}
76 \define@key{LWR@hyperref}{pdffpageduration}{}{}
77 \define@key{LWR@hyperref}{pdffpagehidden}{}{}
78 \define@key{LWR@hyperref}{pagebordercolor}{}{}
79 \define@key{LWR@hyperref}{allbordercolors}{}{}
80 \define@key{LWR@hyperref}{pdfhighlight}{}{}
81 \define@key{LWR@hyperref}{pdfborder}{}{}
82 \define@key{LWR@hyperref}{pdfborderstyle}{}{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}{}{}
84 \define@key{LWR@hyperref}{pdfusetitle}{}{}
85 \define@key{LWR@hyperref}{pdftitle}{}{}
86 \define@key{LWR@hyperref}{pdfauthor}{}{}
87 \define@key{LWR@hyperref}{pdfproducer}{}{}
88 \define@key{LWR@hyperref}{pdfcreator}{}{}
89 \define@key{LWR@hyperref}{addtopdfcreator}{}{}
90 \define@key{LWR@hyperref}{pdfcreationdate}{}{}
91 \define@key{LWR@hyperref}{pdfmoddate}{}{}
92 \define@key{LWR@hyperref}{pdfsubject}{}{}
93 \define@key{LWR@hyperref}{pdfkeywords}{}{}
94 \define@key{LWR@hyperref}{pdftrapped}{}{}
95 \define@key{LWR@hyperref}{pdfinfo}{}{}
96 \define@key{LWR@hyperref}{pdfview}{}{}
97 \define@key{LWR@hyperref}{pdflinkmargin}{}{}
98 \define@key{LWR@hyperref}{pdfstartpage}{}{}
99 \define@key{LWR@hyperref}{pdfstartview}{}{}
100 \define@key{LWR@hyperref}{pdfremotestartview}{}{}
101 \define@key{LWR@hyperref}{pdfpagescrop}{}{}
102 \define@key{LWR@hyperref}{pdftoolbar}{}{}
103 \define@key{LWR@hyperref}{pdfmenubar}{}{}
104 \define@key{LWR@hyperref}{pdfwindowui}{}{}
105 \define@key{LWR@hyperref}{pdffitwindow}{}{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}{}{}
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}{}{}
108 \define@key{LWR@hyperref}{pdfa}{}{}
109 \define@key{LWR@hyperref}{pdfnewwindow}{}{}
110 \define@key{LWR@hyperref}{pdflangs}{}{}
111 \define@key{LWR@hyperref}{pdfpagelabels}{}{}
112 \define@key{LWR@hyperref}{pdfescapeform}{}{}
113 \define@key{LWR@hyperref}{english}{}{}
```

```
114 \define@key{LWR@hyperref}{UKenglish}{}{}
115 \define@key{LWR@hyperref}{british}{}{}
116 \define@key{LWR@hyperref}{USenglish}{}{}
117 \define@key{LWR@hyperref}{american}{}{}
118 \define@key{LWR@hyperref}{german}{}{}
119 \define@key{LWR@hyperref}{austrian}{}{}
120 \define@key{LWR@hyperref}{ngerman}{}{}
121 \define@key{LWR@hyperref}{naustrian}{}{}
122 \define@key{LWR@hyperref}{russian}{}{}
123 \define@key{LWR@hyperref}{brazil}{}{}
124 \define@key{LWR@hyperref}{brazilian}{}{}
125 \define@key{LWR@hyperref}{portuguese}{}{}
126 \define@key{LWR@hyperref}{spanish}{}{}
127 \define@key{LWR@hyperref}{catalan}{}{}
128 \define@key{LWR@hyperref}{afrikaans}{}{}
129 \define@key{LWR@hyperref}{french}{}{}
130 \define@key{LWR@hyperref}{frenchb}{}{}
131 \define@key{LWR@hyperref}{francais}{}{}
132 \define@key{LWR@hyperref}{acadian}{}{}
133 \define@key{LWR@hyperref}{canadien}{}{}
134 \define@key{LWR@hyperref}{italian}{}{}
135 \define@key{LWR@hyperref}{magyar}{}{}
136 \define@key{LWR@hyperref}{hungarian}{}{}
137 \define@key{LWR@hyperref}{greek}{}{}
138 \define@key{LWR@hyperref}{dutch}{}{}
139 \define@key{LWR@hyperref}{tex4ht}{}{}
140 \define@key{LWR@hyperref}{pdftex}{}{}
141 \define@key{LWR@hyperref}{lualatex}{}{}
142 \define@key{LWR@hyperref}{nativepdf}{}{}
143 \define@key{LWR@hyperref}{dvipdfm}{}{}
144 \define@key{LWR@hyperref}{dvipdfmx}{}{}
145 \define@key{LWR@hyperref}{xetex}{}{}
146 \define@key{LWR@hyperref}{pdfmark}{}{}
147 \define@key{LWR@hyperref}{dvips}{}{}
148 \define@key{LWR@hyperref}{hypertex}{}{}
149 \define@key{LWR@hyperref}{vtx}{}{}
150 \define@key{LWR@hyperref}{vtexpdfmark}{}{}
151 \define@key{LWR@hyperref}{dviwindo}{}{}
152 \define@key{LWR@hyperref}{dvipsone}{}{}
153 \define@key{LWR@hyperref}{textures}{}{}
154 \define@key{LWR@hyperref}{latex2html}{}{}
155 \define@key{LWR@hyperref}{ps2pdf}{}{}
156 \define@key{LWR@hyperref}{vietnamese}{}{}
157 \define@key{LWR@hyperref}{vietnam}{}{}
158 \define@key{LWR@hyperref}{arabic}{}{}
159 \define@key{LWR@hyperref}{hidelinks}{}{}
160 \define@key{LWR@hyperref}{draft}{}{}
161 \define@key{LWR@hyperref}{nolinks}{}{}
162 \define@key{LWR@hyperref}{final}{}{}
163 \define@key{LWR@hyperref}{pdfa}{}{}
164 \define@key{LWR@hyperref}{pdfversion}{}{}
165 \define@key{LWR@hyperref}{typexml}{}{}
166 \define@key{LWR@hyperref}{tex4ht}{}{}
167 \define@key{LWR@hyperref}{pdftex}{}{}
168 \define@key{LWR@hyperref}{nativepdf}{}{}
```

```
169 \define@key{LWR@hyperref}{dvipdfm}{}{}
170 \define@key{LWR@hyperref}{dvipdfmx}{}{}
171 \define@key{LWR@hyperref}{dvipdfmx-outline-open}{}{}
172 \define@key{LWR@hyperref}{pdfmark}{}{}
173 \define@key{LWR@hyperref}{dvips}{}{}
174 \define@key{LWR@hyperref}{hypertex}{}{}
175 \define@key{LWR@hyperref}{vtx}{}{}
176 \define@key{LWR@hyperref}{vtexpdfmark}{}{}
177 \define@key{LWR@hyperref}{dviwindo}{}{}
178 \define@key{LWR@hyperref}{dvipsone}{}{}
179 \define@key{LWR@hyperref}{textures}{}{}
180 \define@key{LWR@hyperref}{latex2html}{}{}
181 \define@key{LWR@hyperref}{ps2pdf}{}{}
182 \define@key{LWR@hyperref}{xetex}{}{}
183 \define@key{LWR@hyperref}{driverfallback}{}{}
184 \define@key{LWR@hyperref}{customdriver}{}{}
185 \define@key{LWR@hyperref}{pdfversion}{}{}
186 \define@key{LWR@hyperref}{bookmarks}{}{}
187 \define@key{LWR@hyperref}{ocgcolorlinks}{}{}
188 \define@key{LWR@hyperref}{colorlinks}{}{}
189 \define@key{LWR@hyperref}{frenchlinks}{}{}
190 \define@key{LWR@hyperref}{backref}{}{}
191 \define@key{LWR@hyperref}{pagebackref}{}{}
192 \define@key{LWR@hyperref}{destlabel}{}{}
193 \define@key{LWR@hyperref}{pdfframescrop}{}{}
194 \define@key{LWR@hyperref}{pdffagemode}{}{}
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}{}{}
196 \define@key{LWR@hyperref}{pdfdirection}{}{}
197 \define@key{LWR@hyperref}{pdfviewarea}{}{}
198 \define@key{LWR@hyperref}{pdfviewclip}{}{}
199 \define@key{LWR@hyperref}{pdfprintarea}{}{}
200 \define@key{LWR@hyperref}{pdfprintclip}{}{}
201 \define@key{LWR@hyperref}{pdfprintscaling}{}{}
202 \define@key{LWR@hyperref}{pdfduplex}{}{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}{}{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}{}{}
205 \define@key{LWR@hyperref}{pdfnumcopies}{}{}
206 \define@key{LWR@hyperref}{pdfstartview}{}{}
207 \define@key{LWR@hyperref}{pdfstartpage}{}{}
208 \define@key{LWR@hyperref}{pdftoolbar}{}{}
209 \define@key{LWR@hyperref}{pdfmenubar}{}{}
210 \define@key{LWR@hyperref}{pdfwindowui}{}{}
211 \define@key{LWR@hyperref}{pdffitwindow}{}{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}{}{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}{}{}
214 \define@key{LWR@hyperref}{pdfpagelayout}{}{}
215 \define@key{LWR@hyperref}{pdflang}{}{}
216 \define@key{LWR@hyperref}{baseurl}{}{}
217 \define@key{LWR@hyperref}{pdfusetitle}{}{}
218 \define@key{LWR@hyperref}{pdfpagelabels}{}{}
219 \define@key{LWR@hyperref}{hyperfootnotes}{}{}
220 \define@key{LWR@hyperref}{hyperfigures}{}{}
221 \define@key{LWR@hyperref}{hyperindex}{}{}
222 \define@key{LWR@hyperref}{encap}{}{}
223 \define@key{LWR@hyperref}{linkcolor}{}{}
```

---

```

224 \define@key{LWR@hyperref}{anchorcolor}{}{}{}
225 \define@key{LWR@hyperref}{citecolor}{}{}{}
226 \define@key{LWR@hyperref}{filecolor}{}{}{}
227 \define@key{LWR@hyperref}{urlcolor}{}{}{}
228 \define@key{LWR@hyperref}{menucolor}{}{}{}
229 \define@key{LWR@hyperref}{runcolor}{}{}{}
230 \define@key{LWR@hyperref}{allcolors}{}{}{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load `backref`:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240 {\RequirePackage{backref}}
241 {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244 {\RequirePackage{backref}}
245 {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248 {\RequirePackage{backref}}
249 {}
250
251 \ifLWR@hyperref@pagebackref
252 \RequirePackage{backref}
253 \fi

254 \LetLtxMacro{\href}{\LWR@href}
255 \LetLtxMacro{\nolinkurl}{\LWR@nolinkurl}
256 \LetLtxMacro{\url}{\LWR@url}
257 \LetLtxMacro{\phantomsection}{\LWR@phantomsection}

258 \newcommand*{\hyperbaseurl}[1]{}{}
```

`\hyperimage {⟨URL⟩} {⟨alt text⟩}`

Insert an image with alt text:

```

259 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
260 \LWR@ensuredoingapar%
261 \def\LWR@templink{\#1}%
262 \onelevel@sanitize\LWR@templink%
263 \LWR@htmlltag{%
264 img src=\textquotedbl\text{\LWR@templink}\textquotedbl\ %
265 alt=\textquotedbl\#2\textquotedbl\ %
266 class=\textquotedbl{}hyperimage\textquotedbl%
267 }%
```

```

268 \LWR@ensuredoingapar%
269 \endgroup%
270 }
271
272 \newrobustcmd*\{\hyperimage}{%
273 \begingroup%
274 \LWR@linkcatcodes%
275 \LWR@hyperimageb%
276 }
277

```

\hyperdef {<1: category>} {<2: name>} {<3: text>}

Creates an **HTML** anchor to category.name with the given text.

```

278 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
279 \LWR@ensuredoingapar%
280 \LWR@label@createtag{#1.#2}%
281 #3%
282 \endgroup%
283 }
284
285 \newcommand*\{\hyperdef}{%
286 \begingroup%
287 \LWR@linkcatcodes%
288 \LWR@hyperdefb%
289 }
290

```

\LWR@hyperrefb {<1: URL>} {<2: category>} {<3: name>} {<4: text>}

Creates an **HTML** link to URL#category.name with the given text.

To avoid nested links, \ref is temporarily redefined to the print version.

```

291 \newcommand{\LWR@hyperreffinish}[1]{%
292 \begingroup%
293 \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
294 #1%
295 \endgroup%
296 \LWR@htmltag{/a}%
297 }
298
299 \newcommand*\{\LWR@hyperrefbb}[3]{%
300 \LWR@htmltag{%
301 a href=\textquotedbl%
302 \detokenize\expandafter{#1}\LWR@hashmark%
303 \detokenize\expandafter{#2}. \detokenize\expandafter{#3}%
304 \textquotedbl%
305 \LWR@addlinktitle%
306 }%
307 \endgroup%
308 \LWR@hyperreffinish%
309 }
310
311 \newrobustcmd*\{\LWR@hyperrefb}{%
312 \begingroup%

```

---

```

313 \LWR@linkcatcodes%
314 \LWR@hyperrefbb%
315 }

\LWR@hyperrefc [<label>] {<text>}
Creates text as an HTML link to the LATEX label.

316
317 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{%
318 \LWR@startref{#1}%
319 \endgroup%
320 \LWR@hyperreffinish%
321 }
322
323 \newcommand*{\LWR@hyperrefc}{%
324 \begingroup%
325 \LWR@linkcatcodes%
326 \LWR@hyperrefcb%
327 }

\hyperref {{<1: URL>} {{<2: category>}} {{<3: name>}} {{<4: text>}}} — or —
[<1: label>] {<2: text>}

328 \DeclareRobustCommand*{\hyperref}{%
329 \LWR@ensuredoingapar%
330 \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
331 }

\hypertarget {{<name>}} {{<text>}}
Creates an anchor to name with the given text.

332 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
333 \label{LWR-ht-#1}%
334 #2%
335 \endgroup%
336 }
337
338 \newcommand*{\hypertarget}{%
339 \LWR@ensuredoingapar%
340 \begingroup%
341 \LWR@linkcatcodes%
342 \LWR@hypertargetb%
343 }

\hyperlink {{<name>}} {{<text>}}
Creates a link to the anchor created by hypertarget, with the given link text.
Declared because also defined by memoir.

344 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
345 \ifbool{LWR@insidemathcomment}{%
346 \endgroup%
347 \LWR@hyperrefcb[LWR-ht-#1]}%
```

```
348 }
349
350 \DeclareDocumentCommand{\hyperlink}{}{%
351 \LWR@ensuredoingapar%
352 \begingroup%
353 \LWR@linkcatcodes%
354 \LWR@hyperlinkb%
355 }

\autoref * {\langle label \rangle}
For HTML, \cleveref is used instead.

356 \NewDocumentCommand{\autoref}{s m}{%
357 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
358 }

\autopageref {\langle label \rangle}
For HTML, \cleveref is used instead.

359 \NewDocumentCommand{\autopageref}{s m}{%
360 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
361 }

Default names:

362 \def\equationautorefname{Equation}%
363 \def\footnoteautorefname{footnote}%
364 \def\itemautorefname{item}%
365 \def\figureautorefname{Figure}%
366 \def\tableautorefname{Table}%
367 \def\partautorefname{Part}%
368 \def\appendixautorefname{Appendix}%
369 \def\chapterautorefname{chapter}%
370 \def\sectionautorefname{section}%
371 \def\subsectionautorefname{subsection}%
372 \def\subsubsectionautorefname{subsubsection}%
373 \def\paragraphautorefname{paragraph}%
374 \def\ subparagraphautorefname{subparagraph}%
375 \def\fancyVerbLineautorefname{line}%
376 \def\theoremautorefname{Theorem}%
377 \def\pageautorefname{page}%

\pdfstringdef {\langle macroname \rangle} {\langle TEXstring \rangle}
378 \newcommand{\pdfstringdef}[2]{}}

\pdfbookmark [{\langle level \rangle}]{\langle text \rangle}{\langle name \rangle}
379 \newcommand{\pdfbookmark}[3][]{}

\currentpdfbookmark {\langle text \rangle}{\langle name \rangle}
380 \newcommand{\currentpdfbookmark}[2]{}

```

```
\subpdfbookmark {\langle text\rangle} {\langle name\rangle}
381 \newcommand{\subpdfbookmark}[2]{}

\belowpdfbookmark {\langle text\rangle} {\langle name\rangle}
382 \newcommand{\belowpdfbookmark}[2]{}

\texorpdfstring {\langle TEXstring\rangle} {\langle PDFstring\rangle}
383 \let\texorpdfstring\relax
384 \newcommand{\texorpdfstring}[2]{\#1}

\pdfstringdefDisableCommands {\langle commands\rangle}
385 \newcommand{\pdfstringdefDisableCommands}[1]{}

\hypercalcbp {\langle dimen\rangle} From \hyperref.
386 \def\hypercalcbp#1{%
387 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
388 }%

\Acrobatmenu {\langle menuoption\rangle} {\langle text\rangle}
389 \newcommand{\Acrobatmenu}[2]{}

\TextField [\langle parameters\rangle] {\langle label\rangle}
390 \DeclareRobustCommand{\TextField}[2][]{}

\CheckBox [\langle parameters\rangle] {\langle label\rangle}
391 \DeclareRobustCommand{\CheckBox}[2][]{}

\ChoiceMenu [\langle parameters\rangle] {\langle label\rangle} {\langle choices\rangle}
392 \DeclareRobustCommand{\ChoiceMenu}[3][]{}

\PushButton [\langle parameters\rangle] {\langle label\rangle}
393 \DeclareRobustCommand{\PushButton}[2][]{}

\Submit [\langle parameters\rangle] {\langle label\rangle}
394 \DeclareRobustCommand{\Submit}[2][]{}

\Reset [\langle parameters\rangle] {\langle label\rangle}
395 \DeclareRobustCommand{\Reset}[2]{}

```

```
\Gauge [⟨parameters⟩] {⟨label⟩}
396 \DeclareRobustCommand{\Gauge}[2][]{}

\LayoutTextField {⟨label⟩} {⟨field⟩}
397 \newcommand*{\LayoutTextField}[2]{}

\LayoutChoiceField {⟨label⟩} {⟨field⟩}
398 \newcommand*{\LayoutChoiceField}[2]{}

\LayoutCheckField {⟨label⟩} {⟨field⟩}
399 \newcommand*{\LayoutCheckField}[2]{}

\MakeRadioField {⟨width⟩} {⟨height⟩}
400 \newcommand*{\MakeRadioField}[2]{}

\MakeCheckField {⟨width⟩} {⟨height⟩}
401 \newcommand*{\MakeCheckField}[2]{}

\MakeTextField {⟨width⟩} {⟨height⟩}
402 \newcommand*{\MakeTextField}[2]{}

\MakeChoiceField {⟨width⟩} {⟨height⟩}
403 \newcommand*{\MakeChoiceField}[2]{}

\MakeFieldButton {⟨text⟩}
404 \newcommand{\MakeFieldButton}[1]{}
```

---

### File 225 l warp-hyperxmp.sty

#### § 334 Package **hyperxmp**

Pkg hyperxmp hyperxmp is ignored.

**for HTML output:** Discard all options for l warp-hyperxmp:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}{}{}
4 \define@key{LWR@hyperref}{pdfmetadate}{}{}
```

```
5 \define@key{LWR@hyperref}{pdfcopyright}{}{}{}
```

```
6 \define@key{LWR@hyperref}{pdftype}{}{}{}
```

```
7 \define@key{LWR@hyperref}{pdflicenseurl}{}{}{}
```

```
8 \define@key{LWR@hyperref}{pdfauthortitle}{}{}{}
```

```
9 \define@key{LWR@hyperref}{pdfcaptionwriter}{}{}{}
```

```
10 \define@key{LWR@hyperref}{pdfmetalang}{}{}{}
```

```
11 \define@key{LWR@hyperref}{pdfapart}{}{}{}
```

```
12 \define@key{LWR@hyperref}{pdfaconformance}{}{}{}
```

```
13 \define@key{LWR@hyperref}{pdfuapart}{}{}{}
```

```
14 \define@key{LWR@hyperref}{pdfxstandard}{}{}{}
```

```
15 \define@key{LWR@hyperref}{pdfsource}{}{}{}
```

```
16 \define@key{LWR@hyperref}{pdfdocumentid}{}{}{}
```

```
17 \define@key{LWR@hyperref}{pdfinstanceid}{}{}{}
```

```
18 \define@key{LWR@hyperref}{pdfversionid}{}{}{}
```

```
19 \define@key{LWR@hyperref}{pdfrendition}{}{}{}
```

```
20 \define@key{LWR@hyperref}{pdfpublication}{}{}{}
```

```
21 \define@key{LWR@hyperref}{pdfpubtype}{}{}{}
```

```
22 \define@key{LWR@hyperref}{pdfbytes}{}{}{}
```

```
23 \define@key{LWR@hyperref}{pdfnumpages}{}{}{}
```

```
24 \define@key{LWR@hyperref}{pdfissn}{}{}{}
```

```
25 \define@key{LWR@hyperref}{pdfeissn}{}{}{}
```

```
26 \define@key{LWR@hyperref}{pdfisbn}{}{}{}
```

```
27 \define@key{LWR@hyperref}{pdfbookedition}{}{}{}
```

```
28 \define@key{LWR@hyperref}{pdfpublisher}{}{}{}
```

```
29 \define@key{LWR@hyperref}{pdfvolumenumber}{}{}{}
```

```
30 \define@key{LWR@hyperref}{pdfissuenumber}{}{}{}
```

```
31 \define@key{LWR@hyperref}{pdfpagerange}{}{}{}
```

```
32 \define@key{LWR@hyperref}{pdfdoi}{}{}{}
```

```
33 \define@key{LWR@hyperref}{pdfurl}{}{}{}
```

```
34 \define@key{LWR@hyperref}{pdfidentifier}{}{}{}
```

```
35 \define@key{LWR@hyperref}{pdfsubtile}{}{}{}
```

```
36 \define@key{LWR@hyperref}{pdfpubstatus}{}{}{}
```

```
37 \define@key{LWR@hyperref}{pdfcontactaddress}{}{}{}
```

```
38 \define@key{LWR@hyperref}{pdfcontactcity}{}{}{}
```

```
39 \define@key{LWR@hyperref}{pdfcontactregion}{}{}{}
```

```
40 \define@key{LWR@hyperref}{pdfcontactpostcode}{}{}{}
```

```
41 \define@key{LWR@hyperref}{pdfcontactcountry}{}{}{}
```

```
42 \define@key{LWR@hyperref}{pdfcontactphone}{}{}{}
```

```
43 \define@key{LWR@hyperref}{pdfcontactemail}{}{}{}
```

```
44 \define@key{LWR@hyperref}{pdfcontacturl}{}{}{}
```

```
45 \define@key{LWR@hyperref}{keeppdfinfo}{}{}{}
```

```
46 \define@key{LWR@hyperref}{pdfauthor}{}{}{}
```

```
47 \define@key{LWR@hyperref}{pdfkeywords}{}{}{}
```

File 226 **lwarphyphenat.sty**

§ 335 Package **hyphenat**

Pkg **hyphenat** **hyphenat** is emulated during HTML output, while the print-mode version is used inside a `\textrimage`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

---

```

2 \LetLtxMacro{\LWRHYNAT@origtextnhtt}{\textnhtt}
3 \LetLtxMacro{\LWRHYNAT@orignhttfamily}{\nhttfamily}
4 \LetLtxMacro{\LWRHYNAT@orignohyphens}{\nohyphens}
5 \LetLtxMacro{\LWRHYNAT@origbshyp}{\bshyp}
6 \LetLtxMacro{\LWRHYNAT@origfshyp}{\fshyp}
7 \LetLtxMacro{\LWRHYNAT@origdothyp}{\dothyp}
8 \LetLtxMacro{\LWRHYNAT@origcolonhyp}{\colonhyp}
9 \LetLtxMacro{\LWRHYNAT@orighyp}{\hyp}
10
11 \LetLtxMacro{\textnhtt}{\texttt}
12 \LetLtxMacro{\nhttfamily}{\ttfamily}
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16 \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto{\LWR@restoreorigformatting}{%
24 \LetLtxMacro{\textnhtt}{\LWRHYNAT@origtextnhtt}
25 \LetLtxMacro{\nhttfamily}{\LWRHYNAT@orignhttfamily}
26 \LetLtxMacro{\nohyphens}{\LWRHYNAT@orignohyphens}
27 \LetLtxMacro{\bshyp}{\LWRHYNAT@origbshyp}
28 \LetLtxMacro{\fshyp}{\LWRHYNAT@origfshyp}
29 \LetLtxMacro{\dothyp}{\LWRHYNAT@origdothyp}
30 \LetLtxMacro{\colonhyp}{\LWRHYNAT@origcolonhyp}
31 \LetLtxMacro{\hyp}{\LWRHYNAT@orighyp}
32 }
```

---

### File 227 **l warp-idxlayout.sty**

#### § 336 Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg **idxlayout** **idxlayout** is emulated.

**for HTML output:** Discard all options for **l warp-idxlayout**:

```
1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
```

```
2 \newcommand{\LWR@indexprenote}{}{}
```

\AtBeginDocument to help with package load order.

```

3 \AtBeginDocument{
4 \preto{\printindex}{}
5
6 \LWR@maybe@orignewpage
```

```
7 \LWR@startpars
8
9 \LWR@indexprenote
10
11 }
12 }

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{}}
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*{\indexfont}{}
18 \newcommand*{\indexjustific}{}
19 \newcommand*{\indexsubsdelim}{}
20 \newcommand*{\indexstheadcase}{}
```

---

**File 228 l warp-ifoddpage.sty****§ 337 Package ifoddpage**

(Emulates or patches code by MARTIN SCHARRER.)

Pkg ifoddpage ifoddpage is emulated.

for HTML output: Discard all options for l warp-ifoddpage:

```
1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpage@true\oddpageoroneside@true}
7
8 \def\oddpage@page{1}
9
10 \def@ifoddpage{%
11 \expandafter\@firstoftwo
12 }
13
14 \def@ifoddpageoroneside{%
15 \expandafter\@firstoftwo
16 }
```

---

**File 229 l warp-imakeidx.sty****§ 338 Package imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg imakeidx imakeidx is patched for use by lwarp.

**letter headings** When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the *lwarp.ist* style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the *lwarp.ist* style is used automatically, which displays letter headings.  
When using *xindy* the default style also displays letter headings.)

**index setup** See section 8.6.18 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

**for HTML output:** 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```
2 \catcode`_=12%
3 \define@key{imki}{name}{\def\imki@name{\#1_html}}
4 \catcode`_=8%
```

\printindex The HTML version of \printindex:

```
5 \catcode`_=12%
6
7 \renewcommand*{\printindex}[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstreq{\#1}{\imki@jobname}{%
11 \@ifundefined{\#1@idxfile}{%
12 \imki@error{\#1}%
13 }{%
14 \imki@putindex{\#1}%
15 }%
16 }{%
17 \@ifundefined{\#1_html@idxfile}{\imki@error{\#1_html}}{\imki@putindex{\#1_html}}%
18 }%
19 }
20
21 \catcode`_=8%
```

\@index The HTML version of \@index:

```
22 \catcode`_=12%
23
24 \def\@index[#1]{%
25 \ifstreq{\#1}{\imki@jobname}{%
26 {%
27 \@ifundefined{\#1@idxfile}{%
28 {%
29 \PackageWarning{lwarp-imakeidx}{Undefined index file '\#1'}%
30 \begingroup
31 \@sanitize
32 \imki@nowrindex%
```

```

33 }%
34 {%
35 \edef\@idxfile{\#1}%
36 \begingroup
37 \@sanitize
38 \wrindex{\@idxfile}%
39 }%
40 }%
41 {%
42 \@ifundefined{#1_html@\idxfile}%
43 {%
44 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45 \begingroup
46 \@sanitize
47 \imki@nowrindex%
48 }%
49 {%
50 \edef\@idxfile{#1_html}%
51 \begingroup
52 \@sanitize
53 \wrindex{\@idxfile}%
54 }%
55 }%
56 }
57
58 \catcode`_=8%

```

```

\item
\subitem
\subsubitem HTML versions of \item, etc.:
59 \appto{\theindex}{%
60 \LetLtxMacro{\item}{\LWR@indexitem}%
61 \LetLtxMacro{\subitem}{\LWR@indexsubitem}%
62 \LetLtxMacro{\subsubitem}{\LWR@indexsubsubitem}%
63 }

```

\imki@wrindexentrysplit {<file>} {<entry>} {<page>}  
\imki@wrindexentryunique {<file>} {<entry>} {<page>}

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand{\imki@wrindexentrysplit}[3]{%
65 \addtocounter{\LWR@autoindex}{1}%
66 \label{\LWR@index-\arabic{\LWR@autoindex}}%
67 \expandafter\protected@write\csname#1\idxfile\endcsname{%
68 {\string\indexentry{\#2}{\arabic{\LWR@autoindex}}}}%
69 }
70
71 \renewcommand{\imki@wrindexentryunique}[3]{%
72 \addtocounter{\LWR@autoindex}{1}%
73 \label{\LWR@index-\arabic{\LWR@autoindex}}%
74 \protected@write{\indexfile}{}

```

```

75 {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{#1}{#2}{\thepage}%
80 \endgroup\imki@showidxentry{#1}{#2}%
81 \esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{#1}{#2}{\thepage}%
86 \endgroup\imki@showidxentry{#1}{#2}%
87 \esphack%
88 }
89

```

\LWR@imki@setxdydefopts

Sets the *xindy* HTML options, ignoring the user's settings.

```

90 \newcommand*{\LWR@imki@setxdydefopts}{%
91 \edef\imki@options{ \space %
92 -M \space \LWR@xindyStyle\space %
93 -L \space \LWR@xindyLanguage\space %
94 -C \space \LWR@xindyCodepage\space %
95 }%
96 }

```

\LWR@imki@setdefopts {*<user options>*}

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the lwarf version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the lwarf version is appended.

```

97 \newcommand*{\LWR@imki@setdefopts}[1]{%
98 \ifblank{#1}{%
99 \edef\imki@options{\space - \space \LWR@makeindexStyle \space}%
100 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
101 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
102 \ifdefstring{\imki@progdefault}{truedx}{\LWR@imki@setxdydefopts}{}%
103 }{%
104 \edef\imki@options{\space #1 \space}%
105 }%
106 }

```

\imki@makeindex Use the new HTML options:

```

107 \xpatchcmd{\imki@makeindex}
108 {\let\imki@options\space}
109 {\LWR@imki@setdefopts{}}
110 {}
111 {\LWR@patcherror{imakeidx}{makeindex}}

```

Use the new HTML options.

```
112 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}
```

\imki@resetdefaults    Use the new HTML options:

```
113 \xpatchcmd{\imki@resetdefaults}
114 {\def\imki@options{}}
115 {\LWR@imki@setdefopts{}}
116 {}
117 {\LWR@patcherror{imakeidx}{resetdefaults}}
```

theindex was already defined \AtBeginDocument by the lwarp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```
118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120 \imki@maybeaddtotoc
121 \imki@indexlevel{\indexname}
122 \LetLtxMacro\item{\LWR@indexitem}
123 \LetLtxMacro\subitem{\LWR@indexsubitem}
124 \LetLtxMacro\subsubitem{\LWR@indexsubsubitem}
125 }{}%
126 }% AtBeginDocument
```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the lwarp core.

```
128 \ifimki@splitindex
129 \let\imki@startidx\imki@startidxunique
130 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
131 \let\imki@putindex\imki@putindexunique
132 \let\imki@wrindexentry\imki@wrindexentryunique
133 \let\imki@startidxsplit@\undefined
134 \let\imki@wrindexsplit@\undefined
135 \let\imki@putindexsplit@\undefined
136 \else
137 \let\imki@startidx\imki@startidxsplit
138 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
139 \let\imki@putindex\imki@putindexsplit
140 \let\imki@wrindexentry\imki@wrindexentrysplit
141 \let\imki@startidxunique@\undefined
142 \let\imki@wrindexunique@\undefined
143 \let\imki@putindexunique@\undefined
144 \fi
```

---

File 230 **l warp-impnattypo.sty**

§ 339 Package **impnattypo**

Pkg **impnattypo** **impnattypo** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{impnattypo}[2019/03/04]

---

File 231 **l warp-index.sty**

§ 340 Package **index**

(Emulates or patches code by DAVID M. JONES.)

Pkg **index** **index** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use `\theLWR@autoindex` instead of `\thepage`. `\@tempsw@true` is used to force an immediate write to the index file instead of waiting until the end of the page.

```
2 \xpatchcmd{\newindex}
3 {\x@newindex[\thepage]}
4 {%
5 \@tempsw@true%
6 \x@newindex[\theLWR@autoindex]%
7 }
8 {}
9 {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12 {\x@renewindex[\thepage]}
13 {%
14 \@tempsw@true%
15 \x@renewindex[\theLWR@autoindex]%
16 }
17 {}
18 {\LWR@patcherror{index}{renewindex}}
```

Patched to set a new autoindex:

```
19 \xpatchcmd{\@wrindex}
20 {\begingroup}
21 {%
22 \addtocounter{LWR@autoindex}{1}%
23 \label{LWRindex-\arabic{LWR@autoindex}}% l warp
24 \begingroup%
25 }
```

```

26 {}
27 {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument l warp core \lets \@wrindex to \LWR@wrindex. Since the index package has been loaded, \let to its version instead:

```

28 \let\LWR@index@\wrindex@\wrindex
29
30 \AtBeginDocument{
31 \let@\wrindex\LWR@index@\wrindex
32 }

```

Modified to add \index@prologue:

```

33 \AtBeginDocument{
34 \renewenvironment*{\theindex}{%
35 \LWR@indexsection{\indexname}%
36 \ifx\index@prologue\empty\else
37 \index@prologue
38 \bigskip
39 \fi
40 \LetLtxMacro\item{\LWR@indexitem}%
41 \LetLtxMacro\subitem{\LWR@indexsubitem}%
42 \LetLtxMacro\subsubitem{\LWR@indexsubsubitem}%
43 }{}%
44 }% AtBeginDocument

```

Disabled:

```

45 \def\@showidx#1{}
46 \let\@texttop\relax
47 \renewcommand*{\raggedbottom}{}%
48 \renewcommand*{\flushbottom}{}%
49 \renewcommand*{\markboth}[2]{}%
50 \renewcommand*{\markright}[1]{}%

```

### File 232 **l warp-inputtrc.sty**

§ 341 Package **inputtrc**

(Emulates or patches code by UWE LÜCK.)

Pkg inputtrc inputtrc is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a lateximage.

```

2 \renewcommand*{\IT@prim@input}[1]{%
3 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 %% ... TODO: option to write to '.log' only.

```

---

```

5 \xdef\IT@filestack{{\IT@currfile}\IT@filestack}%
6 \xdef\IT@currfile{\#1}%
7 \expandafter \gdef\expandafter \IT@indent\expandafter{%
8 \IT@indent \IT@indent@unit}%
9 \@@input#1% l warp
10 \expandafter\IT@pop@indent\IT@indent \@nil% l warp
11 \expandafter\IT@pop@file \IT@filestack\@nil% l warp
12 \IT@maybe@returnmessage%% v0.2 l warp
13 }

```

---

### File 233 **l warp-intopdf.sty**

#### § 342 Package **intopdf**

Pkg intopdf intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```

2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{\#2}{\#5}%
4 }

```

---

### File 234 **l warp-isomath.sty**

#### § 343 Package **isomath**

(Emulates or patches code by GÜNTER MILDE.)

Pkg isomath isomath is used as-is for SVG math, and emulated for MATHJAX.

⚠ **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbf{\boldsymbol}}
4 \CustomizeMathJax{\let\mathsf{\mathbf{\boldsymbol}}}% not sans
5 \CustomizeMathJax{\let\mathsf{\mathit{\mathbf{\boldsymbol}}}% not sans
6 \CustomizeMathJax{\let\mathit{\mathbf{\boldsymbol}}}
7 \CustomizeMathJax{\let\matrix{\mathbf{\boldsymbol}}}
8 \CustomizeMathJax{\let\tensor{\mathbf{\boldsymbol}}}
9 \CustomizeMathJax{\let\mathbold{\mathbf{\boldsymbol}}}
10 \CustomizeMathJax{\let\mathbold{\mathbf{\boldsymbol}}}
11 \CustomizeMathJax{\let\mathsf{\mathbf{\boldsymbol}}}% not sans
12 \end{warpMathJax}

```

---

**File 235 l warp-isotope.sty**

§ 344      Package **isotope**

*(Emulates or patches code by HEIKO BAUKE.)*

Pkg    isotope    isotope is patched for use by l warp with SVG math, and emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3 \renewcommand{\isotope@atomicnumber}{#1}%
4 \edef\LWR@isotope@alttag{%
5 \textbackslash%
6 \textbackslash{}isotope%
7 [\isotope@nucleonnumber]%
8 [\isotope@atomicnumber]%
9 \{#2\}%
10 \textbackslash)%
11 }%
12 \ifbool{mathjax}{%
13 {\LWR@isotope@alttag}%
14 {%
15 \m@th%
16 \LWR@subsingle dollar*%
17 {%
18 \LWR@isotope@alttag%
19 }%
20 {isotope}%
21 {%
22 add'l hashing%
23 contents%
24 \settowidth{\tempdimb}{%
25 \ensuremath{\scriptstyle\isotope@nucleonnumber}%
26 }%
27 \settowidth{\tempdimc}{%
28 \ensuremath{\scriptstyle\isotope@atomicnumber}%
29 }%
30 \ifdim{\tempdimb}<{\tempdimc}{%
31 \tempdimb=\tempdimc\fi%
32 \ensuremath{%
33 \makebox[\tempdimb][r]{%
34 \scriptstyle\isotope@nucleonnumber%
35 }%
36 \makebox[\tempdimb][r]{%
37 \scriptstyle\isotope@atomicnumber%
38 }%
39 }%
40 \isotopestyle{#2}%
41 }%
42 }%
43 }%
44 }%
45}
```

```

43 }% contents
44 }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51 \newcommand{\LWRisotopetwo}[2][]{%
52 {%
53 \vphantom{\mathrm{#2}}%
54 {}^{\LWRisopenucleonnumber_{\#1}}%
55 \mathrm{#2}%
56 }%
57 }%
58 }
59
60 \CustomizeMathJax{%
61 \newcommand{\isotope}[1][]{%
62 \def\LWRisopenucleonnumber{\#1}%
63 \LWRisotopetwo%
64 }%
65 }
66 \end{warpMathJax}

```

### File 236 **lwarf-jurabib.sty**

#### § 345 Package **jurabib**

(Emulates or patches code by JENS BERGER.)

Pkg jurabib jurabib is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]

```

2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*\jb@biblaw@item{%
7 \hspace{0.5em}%
8 $ \triangleright %
9 \HTMLunicode{25B7} lwarf
10 \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%
14 \ifjbweareinbib
15 \setowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+\#1}%
16 \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17 \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}
18 #1\ifjb@dot\unskip\unskip\unskip.\fi
19 &

```

```

20 \quad\quad\quad l warp
21 \ifthenelse{\equal{#2}{}}{\jb@barchnameformat{#2}}%
22 % \end{tabular}
23 \fi
24 }%
25
26
27 \xpatchcmd{\jb@do@post@item}
28 {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
29 {}
30 {}
31 {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34 {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
35 {\jb@name}
36 {}
37 {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40 {\jb@biblaw@item & \jb@fulltitle}
41 {\jb@biblaw@item \quad \jb@fulltitle}
42 {}
43 {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46 {\end{tabular}}
47 {}
48 {}
49 {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52 {\begin{minipage}[t]{\bibnumberwidth}}
53 {}
54 {}
55 {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
57 \xpatchcmd{\jb@do@post@item}
58 {\end{minipage}}
59 {\quad}
60 {}
61 {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 237 **l warp-karnaugh-map.sty**

§ 346 Package **karnaugh-map**

(Emulates or patches code by MATTIAS JACOBSSON.)

Pkg karnaugh-map karnaugh-map is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because `lwarp` changes the definition of `\&`, and the original uses `\ifnum` to compare `0` with `\&`. It is hard to patch this environment, so the entire thing is redefined here, with the `lwarp` modifications identified in comments.

```

2 \RenewDocumentEnvironment{karnaugh-map}{s 0{4} 0{4} 0{1} 0{X_1X_0} 0{X_3X_2} 0{X_5X_4}} {%
3 \begingroup
4 % store map size {[START]
5 \renewcommand{\@karnaughmap@var@mapsizex@}{#2}%
6 \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
7 \renewcommand{\@karnaughmap@var@mapsizel@}{#4}%
8 % [END]}
9 % determinate if markings should be color or black and white
10 \IfBooleanTF{#1}{%
11 % should be black and white
12 \renewcommand{\@karnaughmap@var@bw@}{1}%
13 }{%
14 % should be color
15 \renewcommand{\@karnaughmap@var@bw@}{0}%
16 }%
17 %
18 % find matching matrix template and alignment parameters {[START]
19 \newcommand{\@karnaughmap@local@matrixtemplate@}{0}%
20 '0' is considered as missing matrix template
21 \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
22 \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
23 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=221
24 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
25 \& 0 \& 1 \& \\
26 0 \& |(000000)| \& |(000001)| \& \\
27 1 \& |(000010)| \& |(000011)| \& \\
28 \& \& \& \\
29 }%
30 \fi
31 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=241
32 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
33 \& 0 \& 1 \& \\
34 00 \& |(000000)| \& |(000001)| \& \\
35 01 \& |(000010)| \& |(000011)| \& \\
36 11 \& |(000110)| \& |(000111)| \& \\
37 10 \& |(000100)| \& |(000101)| \& \\
38 \& \& \& \\
39 }%
40 \fi
41 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=421
42 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
43 \& 00 \& 01 \& 11 \& 10 \& \\
44 0 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \\
45 1 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \\
46 \& \& \& \& \\
47 }%
48 \fi
49 \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=441
50 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
51 \& 00 \& 01 \& 11 \& 10 \& \\
52 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \\
 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \\
 }%
 }%
 }%
 }%
}
```

```

53 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
54 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
55 \& \& \& \&
56 }%
57 \fi
58 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=442
59 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60 \& 00 \& 01 \& 11 \& 10 \&
61 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(0000
62 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(0001
63 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
64 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
65 \& \& \& \&
66 }%
67 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68 \fi
69 \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=444
70 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71 \& 00 \& 01 \& 11 \& 10 \&
72 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(0000
73 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(0001
74 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
75 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
76 \& \& \& \&
77 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(1000
78 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(1001
79 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(1011
80 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(1010
81 \& \& \& \&
82 }%
83 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
84 \renewcommand{\@karnaughmap@local@maprealignmenty@}{-2.5}%
85 \fi
86 % [END]]
87 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
88 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
89 % \ifnum0=\@karnaughmap@local@matrixtemplate@% original
90 % % print error if no template could be found
91 % \PackageError{lwarp-karnaugh-map}{%
92 % Can not find a template fitting your specification
93 % (@karnaughmap@var@mapsizex@\space x \@karnaughmap@var@mapsizey@\space x
94 % \@karnaughmap@var@mapsizex@)%
95 % }{%
96 % Existing templates have the following dimensions:
97 % 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
98 % }%
99 % \fi original
100 }{\relax}% lwarp
101 \begin{tikzpicture}
102 % grid
103 % for all dimensions
104 \draw[color=black, ultra thin] (0,0) grid (@karnaughmap@var@mapsizex@, @karnaughmap@var@mapsizex@);
105 % when there are 2 sub maps
106 \ifnum\@karnaughmap@var@mapsizex@=2
107 \draw[color=black, ultra thin] (5,0) grid (9,4);

```

```

108 \fi
109 % when there are 4 sub maps
110 \ifnum\@karnaughmap@var@mapsizex@=4
111 \draw[color=black, ultra thin] (5,0) grid (9,4);
112 \draw[color=black, ultra thin] (0,-5) grid (4,-1);
113 \draw[color=black, ultra thin] (5,-5) grid (9,-1);
114 \fi
115 % labels
116 % for all dimensions
117 \node[above] at (@\karnaughmap@var@mapsizex@*0.5,\@karnaughmap@var@mapsizey@+0.9) {\small{\#5}};
118 \node[left] at (-0.9,\@karnaughmap@var@mapsizey@*0.5) {\small{\#6}};
119 % when there are 2 sub maps
120 \ifnum\@karnaughmap@var@mapsizex@=2
121 \node[above] at (7,4.9) {\small{\#5}};
122 % extra sub maps labels
123 \node[below] at (2,-0.1) {\small{\#7$=0\$}};
124 \node[below] at (7,-0.1) {\small{\#7$=1\$}};
125 \fi
126 % when there are 4 sub maps
127 \ifnum\@karnaughmap@var@mapsizex@=4
128 \node[above] at (7,4.9) {\small{\#5}};
129 \node[left] at (-0.9,-3) {\small{\#6}};
130 % extra sub maps labels
131 \node[below] at (2,-0.1) {\small{\#7$=00\$}};
132 \node[below] at (7,-0.1) {\small{\#7$=01\$}};
133 \node[below] at (2,-5.1) {\small{\#7$=10\$}};
134 \node[below] at (7,-5.1) {\small{\#7$=11\$}};
135 \fi
136 % data
137 \matrix[
138 matrix of nodes,
139 ampersand replacement=&,
140 column sep={1cm,between origins},
141 row sep={1cm,between origins},
142] at (@\karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@maprealignmentx@,\@karnaughmap@var@mapsizex@*0.5+\@karnaughmap@local@matrixtemplate@%
143 \@karnaughmap@local@matrixtemplate@%
144);
145 }{
146 \end{tikzpicture}
147 \endgroup
148 }

```

---

File 238 **l warp-keyfloat.sty**

§ 347 Package **keyfloat**

(Emulates or patches code by BRIAN DUNN.)

Pkg **keyfloat** **keyfloat** is supported with a considerable amount of hacking. (It's a mashup of **l warp**, **keyfloat**, and **tocdata**.)

 **keywrap** If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of

`lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

```
for HTML output: 1 \LWR@ProvidesPackagePass[keyfloat][2019/09/23]
2
3 \@ifpackagelater[keyfloat]{2019/09/23}{\relax}{
4 \PackageError{lwarp-keyfloat}
5 {%
6 The keyfloat package is out of date.\MessageBreak
7 Update to keyfloat v2.01 2019/09/23 or later%
8 }
9 {%
10 Please update the keyfloat package. It's worth it!%
11 }
12 }
```

After `keyfloat` has loaded:

```
13 \AtBeginDocument{

14 \providecommand*\KFLT@LWR@hook@boxouter{}%
15 \renewcommand*\KFLT@LWR@hook@boxouter{%
16 \ifbool{KFLT@keywrap}{%
17 }{%
18 \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
19 \setlength{\ linewidth}{6in}%
20 \setlength{\textwidth}{6in}%
21 \setlength{\textheight}{9in}%
22 }{%
23 }%
24 \normalcolor%
25 }%
26 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
27
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{%
31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \renewcommand*\KFLT@maybeendfloatrow}{%
34 \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}{%
35 }% thiscol < numcols
36 {%
37 \defcounter{KFLT@thiscol}{0}%
38 }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}{%
42 {%
```

If are nested inside a keyfloats or a subfloat:

```

43 \ifboolexpr{%
44 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
45 bool{KFLT@inkeysfloats}%
46 }%
47 {%
48 nested

```

Tracks row start and end:

```

48 \KFLT@maybestartfloatrow%

```

Possibly fill space between columns:

```

49 \ifnumgreater{\value{KFLT@thiscol}}{1}%
50 {%
51 \hfill%
52 }%
53 {}%
54 }% nested
55 {}% not nested
56 }

57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{KFLT@onefigureimage}%
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}{}}
62 {%
63 \ifdimgreater{\KFLT@h}{0pt}%
64 {%
65 \KFLT@frame{%
66 \includegraphics{%
67 [%
68 scale=\KFLT@s,%
69 width=\KFLT@imagewidth,%
70 height=\KFLT@h,%
71 \KFLT@keepaspectratio,%
72]{#1}%
73 }%
74 }%
75 {%
76 \KFLT@frame{\includegraphics{%
77 [scale=\KFLT@s, width=\KFLT@imagewidth]{#1}}%
78 }%
79 }%
80 }% not linewidth
81 \ifthenelse{\dimtest{\KFLT@w}>}{0pt}%
82 {% width is given
83 \ifthenelse{\dimtest{\KFLT@h}>}{0pt}%
84 {% w and h
85 \KFLT@frame{\includegraphics[%%
86 scale=\KFLT@s,%

```

```
87 width=\KFLT@imagewidth,%
88 height=\KFLT@h,%
89 \KFLT@keepaspectratio,%
90]{#1}}%
91 }% w and h
92 {% only w
93 \KFLT@frame{\includegraphics%
94 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
95 }% only w
96 }% width is given
97 {% width is not given
98 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
99 {%
100 \KFLT@frame{\includegraphics%
101 [scale=\KFLT@s,height=\KFLT@h]{#1}}%
102 }%
103 {%
104 \KFLT@frame{\includegraphics%
105 [scale=\KFLT@s]{#1}}%
106 }%
107 }% width is not given
108 }% not linewidth
109 % \end{lrbox}
110 % \unskip%
111 % \KFLT@findenvboxwidth%
112 % \begin{turn}{\KFLT@r}%
113 % \KFLT@frame{\usebox{\KFLT@envbox}}%
114 % \unskip%
115 % \end{turn}%
116 \LWR@traceinfo{KFLT@onefigureimage: done}%
117 }

118 \RenewDocumentEnvironment{KFLT@boxinner}{}
119 {
120 \LWR@traceinfo{KFLT@boxinner}%
121 \LWR@stoppars%
122 \minipagefullwidth%
123 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{
124 \fminipage{\KFLT@imagewidth}%
125 }{
126 \minipage{\KFLT@imagewidth}%
127 }%
128 }
129 {
130 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{
131 \endfminipage%
132 }{
133 \endminipage%
134 }%
135 \LWR@startpars%
136 \LWR@traceinfo{KFLT@boxinner: done}%
137 }

138 \newcommand*{\LWR@KFLT@settextalign}[1]{%
139 \def\LWR@KFLT@textalign{justify}%
```

```

140 \ifcsstring{KFLT@#1textalign}{\centering}%
141 {\def\LWR@KFLT@textalign{center}}%
142 {}%
143 \ifcsstring{KFLT@#1textalign}{\raggedleft}%
144 {\def\LWR@KFLT@textalign{right}}%
145 {}%
146 \ifcsstring{KFLT@#1textalign}{\raggedright}%
147 {\def\LWR@KFLT@textalign{left}}%
148 {}%
149 }
150
151 \renewcommand{\KFLT@addtext}[1]
152 {%

```

Is there text to add?

```

153 \ifcsempy{KFLT@#1t}%
154 {}% no text
155 {% text to add
156 {% local

```

Add some space, then create a <div> to contain the text:

```

157 \addvspace{\smallskipamount}%
158 \LWR@KFLT@settextalign{#1}%
159 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

160 % \csuse{KFLT@#1textalign}%
161 % \footnotesize%
162 % \setlength{\parskip}{1.5ex}%
163 % \setlength{\parindent}{0em}%

```

Typeset the actual text:

```

164 \csuse{KFLT@#1t}%

```

Close it all out with a little more space:

```

165 \end{BlockClass}%
166 % \par\addvspace{2ex}%
167 {}% local
168 }% text to add
169 }
170
171 \@ifpackageloaded{tocdata}
172 {}
173 {% tocdata not loaded
174
175 \newcommand*\LWR@KFLT@setnamealign[1]{%
176 \def\LWR@KFLT@textalign{justify}%
177 \ifstreq{\#1}{\centering}%
178 {\def\LWR@KFLT@textalign{center}}%

```

```

179 {}%
180 \ifstreq{\#1}{\raggedleft}%
181 {\def\LWR@KFLT@textalign{right}}%
182 {}%
183 \ifstreq{\#1}{\raggedright}%
184 {\def\LWR@KFLT@textalign{left}}%
185 {}%
186 }
187
188 \renewcommand*{\KFLT@addartisttext}[3]{%
189

```

Add space and create the name inside a <div>:

```

190 % \addvspace{\medskipamount}%
191 % \begin{minipage}{\linewidth}%
192 \LWR@KFLT@setnamealign{#3}%
193 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
194

```

Text alignment is #3, and depends on artist or author:

```

195 % #3%
196

```

#1 is empty or 'subgrp'  
#2 is empty for artist, 'u' for author:

```

197 \footnotesize\textsc{%
198 \KFLT@optionalname{\csuse{\KFLT@#1a#2p}}%
199 \KFLT@optionalname{\csuse{\KFLT@#1a#2f}}%
200 \csuse{\KFLT@#1a#2l}%
201 \csuse{\KFLT@#1a#2s}%
202 }%
203 % \end{minipage}%
204 \end{BlockClass}%
205 \par\addvspace{2ex}%
206 }
207
208 }% tocdata not loaded

```

Env KFLT@marginfloat [ $\langle offset \rangle$ ] { $\langle type \rangle$ }

```

209 \DeclareDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}%
210 {%
211 \uselengthunit{PT}%
212 \LWR@BlockClassWP%
213 {float:right; width:2in; margin:10pt}%
214 {}%
215 (note)%
216 {marginblock}%
217 \renewcommand*{\@capttype}{#2}%
218 \minipage{1.2\LWR@usersmarginparwidth}%
219 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%

```

```

220 }
221 {%
222 \endminipage%
223 \endLWR@BlockClassWP%
224 }

225 \DeclareDocumentEnvironment{marginfigure}{o}
226 {\begin{KFLT@marginfloat}{figure}}
227 {\end{KFLT@marginfloat}}
228
229 \DeclareDocumentEnvironment{margintable}{o}
230 {\begin{KFLT@marginfloat}{table}}
231 {\end{KFLT@marginfloat}}

Env keywrap {\langle width\rangle} {\langle keyfloat\rangle}

232 \DeclareDocumentEnvironment{keywrap}{m +m}
233 {%
234 \begin{LWR@setvirtualpage}*
235 \setlength{\LWR@templengthone}{#1}%
236 \begin{LWR@BlockClassWP}%
237 {%
238 float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
239 margin:10pt%
240 }%
241 {}%
242 (note)%
243 {marginblock}%
244 \setlength{\ linewidth}{.95\LWR@templengthone}%
245 \booltrue{KFLT@keywrap}%
246 #2%
247 \end{LWR@BlockClassWP}%
248 \end{LWR@setvirtualpage}%
249 }
250 {}

251 }% AtBeginDocument

```

File 239 **lwarf-keystroke.sty**

§ 348 Package **keystroke**

(Emulates or patches code by WERNER FINK.)

Pkg keystroke keystroke is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

```

2 \newcommand*{\LWR@HTML@keystroke}[1]{
3 \InlineClass{keystroke}{#1}
4 }
```

```
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*{\LWR@HTML@Return}{\keystroke{\HTMLunicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*{\LWR@HTML@BSpace}{\keystroke{\HTMLunicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*{\LWR@HTML@Tab}{\keystroke{| \HTMLunicode{021C6} |}}
15 \LWR@formatted{Tab}
16
17 \newcommand*{\LWR@HTML@UArrow}{\keystroke{\HTMLunicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*{\LWR@HTML@DArrow}{\keystroke{\HTMLunicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*{\LWR@HTML@LArrow}{\keystroke{\HTMLunicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*{\LWR@HTML@RArrow}{\keystroke{\HTMLunicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro{\LWR@HTML@Shift}{\Shift}
31 \xpatchcmd{\LWR@HTML@Shift}
32 {\Uparrow}
33 {\HTMLunicode{21D1}}
34 {}
35 {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro{\LWR@HTML@PgUp}{\PgUp}
39 \xpatchcmd{\LWR@HTML@PgUp}
40 {\uparrow}
41 {\HTMLunicode{2191}}
42 {}
43 {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro{\LWR@HTML@PgDown}{\PgDown}
47 \xpatchcmd{\LWR@HTML@PgDown}
48 {\downarrow}
49 {\HTMLunicode{2193}}
50 {}
51 {}
52 \LWR@formatted{PgDown}
```

---

**File 240 l warp-kpfonts.sty**

§ 349      Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

Pkg kpfonts kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation honors the options uprightRoman for \D only, classicReIm, frenchstyle for Greek only, upright for Greek only, uprightgreeks, slantedGreeks, and mathcalasscript.

The dedicated macros for Greek work correctly.

SVG math should appear the same as the printed output.

**for HTML output**

```
1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxtxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\LRorigmathscr\mathscr}
13 \CustomizeMathJax{\let\LRorigmathcal\mathcal}
14 \CustomizeMathJax{\let\mathscr\LRorigmathcal}
15 \CustomizeMathJax{\let\mathcal\LRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19 \LWR@mathjax@addgreek@l@up{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}{}
21 \else
22 \LWR@mathjax@addgreek@l@up{other}{}{}
23 \fi
24
25 \ifkp@slGrk
26 \LWR@mathjax@addgreek@u@it*{}{}
27 \LWR@mathjax@addgreek@u@up*{other}{}{}
28 \LWR@mathjax@addgreek@u@up*{var}{}{}
29 \else
30 \LWR@mathjax@addgreek@u@it*{other}{}{}
31 \LWR@mathjax@addgreek@u@it*{var}{}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}
```

## File 241 **l warp-kpfonts-otf.sty**

§ 350 Package **kpfonts-otf**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg kpfonts-otf kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `fancyReIm`, `mathcal`, `frenchstyle` for Greek only, and `mathcalscript`.

Also see the options for `unicode-math`, which is loaded by `kpfonts-otf`.

The `\usepackage{unicode-math}` dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarf-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarf-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14 \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm
23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30 \def\#1{\mathclose{,\mathrm{#1}}}
31 }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointccw}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x2939\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x0222E\}}}}
41 \CustomizeMathJax{\newcommand{\ointccw}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x0222F\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x2938\}}}}
42 \CustomizeMathJax{\newcommand{\ointctrccw}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x2939\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x0222F\}}}}
43 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x0222F\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x2938\}}}}
44 \CustomizeMathJax{\newcommand{\varointctrccw}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x2939\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x0222F\}}}}
45 \CustomizeMathJax{\newcommand{\oiintccw}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x02230\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x2938\}}}}
46 \CustomizeMathJax{\newcommand{\oiintctrccw}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x2939\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x02230\}}}}
47 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x02230\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x2938\}}}}
48 \CustomizeMathJax{\newcommand{\varoiintctrccw}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x2939\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x02230\}}}}
49 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x2A16\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x2A16\}}}}
50 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\text{\!{\scriptsize \texttt{unicode}}}\{x2A16\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x2A16\}\!\!\!\text{\!{\scriptsize \texttt{unicode}}}\{x2A16\}}}
51
52 \CustomizeMathJax{\let\widearc\overparen}
53 \CustomizeMathJax{\let\wideararrow\overrightarrow}
54 \CustomizeMathJax{\let\overrightarc\overrightarrow}
55
56 \end{warpMathJax}
```

---

**File 242 l warp-layaureo.sty****§ 351 Package layaureo**

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

**File 243 l warp-layout.sty****§ 352 Package layout**

Pkg layout layout is ignored.

**for HTML output:** Discard all options for l warp-layout:

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

2 \NewDocumentCommand{\layout}{s}{}{}

---

**File 244 l warp-layouts.sty****§ 353 Package layouts**

Pkg layouts layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

2 \newif\ifoddpage<sup>layout</sup>  
3 \oddpagelayouttrue  
4 \newif\iftwocolumnlayout  
5 \twocolumnlayoutfalse  
6 \newif\ifdrawmarginpars  
7 \drawmarginpartrue  
8 \newif\ifdrawparameters  
9 \drawparameterstrue  
10 \newif\iflistaspara  
11 \listasparatrue  
12 \newif\ifruninhead  
13 \runinheadfalse  
14 \newif\ifprintparameters  
15 \printparameterstrue  
16 \newif\ifdrawdimensions  
17 \drawdimensionsfalse  
18 \newif\ifprintheadings

```
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparameterfont}[1]{}
24 \newcommand{\setvaluesize}[1]{}
25 \newcommand{\setLayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
```

```
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
```

```
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawaspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframelabel}[1]{}

```

**File 245 l warp-leading.sty****§ 354 Package leading**

Pkg **leading** **leading** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand\leading[1]{}  

---

**File 246 l warp-leftidx.sty****§ 355 Package leftidx**

(Emulates or patches code by HARALD HARDERS.)

Pkg **leftidx** **leftidx** works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]

2 \begin{warpMathJax}  
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}\#1#2#3}}  
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^{\mathsf{t}}}{\!#1}{#1}}}  
5 \end{warpMathJax}  

---

**File 247 l warp-letterspace.sty****§ 356 Package letterspace**

(Emulates or patches code by R SCHLICHT.)

Pkg **letterspace** **letterspace** is a subset of microtype, which is pre-loaded by l warp. All user options and macros are ignored and disabled.

**for HTML output:**

Discard all options for **l warp-letterspace**:

```

1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]

2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][]{}
4 \def\textls#1#2{#1\lsstyle{#2}}
5 \newcommand*\lslig[1]{\textls{#1}{\tiny\texttt{lslig}}}
```

---

#### File 248 **l warp-lettrine.sty**

§ 357 Package **lettrine**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg **lettrine** **lettrine** is emulated.

for **HTML output**: Discard all options for **l warp-lettrine**:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a <span> of class **lettrine**, and the following text is in a <span> of class **lettrinetext**. \lettrine [*keys*] {<*letter*>} {<*additional text*>}

```

2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*{\DefaultOptionsFile}{\relax}
10 \newcommand*{\DefaultLoversize}{0}
11 \newcommand*{\DefaultLraise}{0}
12 \newcommand*{\DefaultLhang}{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*{\LettrineTextFont}{\scshape}
26 \newcommand*{\LettrineFontHook}{}
27 \newcommand*{\LettrineFont}[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*{\LettrineFontEPS}[1]{\includegraphics[height=1.5ex]{#1}}
```

---

File 249 **l warp-libertinust1math.sty**

§ 358 Package **libertinust1math**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg `libertinust1math` `libertinust1math` is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors `frenchmath` for Greek but not Latin characters, and `slantedGreek`, `uprightGreek`, and `ISO` also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsf{bf}` do not use a sans font because MATHJAX does not yet have sans Greek.

SVG math honors all font choices, and should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \ifibus@slantedG
9 \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \ifibus@frenchm
19 \LWR@mathjax@addgreek@l@up{}{}
20 \else
21 \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it{}{it}
25 \LWR@mathjax@addgreek@l@up{}{up}
26 \LWR@mathjax@addgreek@l@up{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsf{bf}\mathbf}% not sans
```

```

30 \% \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 \% \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}\% not greek
32 \% }%\ not sans
33
34 \% \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 \% \CustomizeMathJax{\newcommand{\mathsfbf}[1]{\boldsymbol{#1}}}\% not sans
37 \CustomizeMathJax{\let\mathsfbf\mathbfit}\% not sans
38 \% \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
39 \% \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}\% not greek
40 \% }%\

41 \CustomizeMathJax{\let\mathsfit\mathit}\% not sans
42 \% \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 \% \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}\% not greek
44 \% }%
45
46 \CustomizeMathJax{\let\vectorsym\mathbfit}
47 \CustomizeMathJax{\let\matrixsym\mathbfit}
48 \CustomizeMathJax{\let\tensorsym\mathsfbf}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbf}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

```

`lwarp_mathjax.txt` adds `\left`/`\right` support for delimiters.

```

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smallintsl}{\mathop{\backslash unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\backslash unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiiiintsl}{\mathop{\backslash unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\backslash unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\backslash unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\backslash unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\backslash unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smalliiiiintup}{\mathop{\backslash unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\backslash unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\backslash unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\intslop}{\mathop{\backslash unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiintslop}{\mathop{\backslash unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiiintslop}{\mathop{\backslash unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\ointsl\oint}
75 \CustomizeMathJax{\newcommand{\ointsl}{\mathop{\backslash unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\backslash unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}

```

```
79 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\text{\normal iintupop}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\text{\normal iiintupop}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\text{\normal iiiintupop}}\limits}}
82 \CustomizeMathJax{\let\ointupop\oint}
83 \CustomizeMathJax{\newcommand{\ointupop}{\mathop{\text{\normal ointupop}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\text{\normal oiiintupop}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\text{\normal smalliint}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\text{\normal smalliiint}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiiiint}{\mathop{\text{\normal smalliiiiint}}\limits}}
89 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\text{\normal smalloint}}\limits}}
90 \CustomizeMathJax{\newcommand{\smalllooint}{\mathop{\text{\normal smalllooint}}\limits}}
91
92 \CustomizeMathJax{\let\inttop\int}
93 \CustomizeMathJax{\newcommand{\iinttop}{\mathop{\text{\normal iinttop}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiinttop}{\mathop{\text{\normal iiinttop}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiiinttop}{\mathop{\text{\normal iiiinttop}}\limits}}
96 \CustomizeMathJax{\let\ointtop\oint}
97 \CustomizeMathJax{\newcommand{\ointtop}{\mathop{\text{\normal ointtop}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiinttop}{\mathop{\text{\normal oiiinttop}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\normaloint}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\text{\normal bigcupdot}}\limits}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\text{\normal bigsqcap}}\limits}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\text{\normal xsol}}\limits}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\text{\normal xbsol}}\limits}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}
111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\xbsolop\xbsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{\text{\normal ovhook}}[1]}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\text{\normal candra}}[1]}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\text{\normal otturnedor}}[1]}}
126 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\text{\normal ocommatopright}}[1]}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\text{\normal droang}}[1]}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\text{\normal leftharpoon}}[1]}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\text{\normal rightharpoon}}[1]}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\text{\normal leftarrow}}[1]}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightarrowaccent}[1]{\mathord{\text{\normal leftrightarrow}}[1]}}
```

```
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{\#1\unicode{x20E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{\#1\unicode{x20E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x20F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceld}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{\sim}}
158 \CustomizeMathJax{\newcommand{\rhook}{\sim}}
159 \CustomizeMathJax{\newcommand{\relbar}{\dashrightarrow}}
160 \CustomizeMathJax{\newcommand{\Relbar}{\dashleftarrow}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x21A6}}}\!\!\!\!\}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x001B5}}}\!\!\!\!\}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x00AC}}}\!\!\!\!\}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x03F6}}}\!\!\!\!\}}}}
167 \CustomizeMathJax{\newcommand{\smblkcircle}{\mathbin{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02022}}}\!\!\!\!\}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02025}}}\!\!\!\!\}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02026}}}\!\!\!\!\}}}}
170 \CustomizeMathJax{\newcommand{\mathellipsis}{\mathinner{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02026}}}\!\!\!\!\}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02033}}}\!\!\!\!\}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02034}}}\!\!\!\!\}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02036}}}\!\!\!\!\}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02037}}}\!\!\!\!\}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02038}}}\!\!\!\!\}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x0203C}}}\!\!\!\!\}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02043}}}\!\!\!\!\}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02044}}}\!\!\!\!\}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02047}}}\!\!\!\!\}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02050}}}\!\!\!\!\}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02057}}}\!\!\!\!\}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x020D2}}}\!\!\!\!\}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x020DD}}}\!\!\!\!\}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x020DE}}}\!\!\!\!\}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x020E4}}}\!\!\!\!\}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02107}}}\!\!\!\!\}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\!\!\!\{\!\!\!\!\! \text{\scriptsize \texttt{unicode{x02129}}}\!\!\!\!\}}}}
```



```

244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicodex{022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicodex{022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicodex{022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicodex{022E1}}}}
248 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicodex{022E2}}}}
249 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicodex{022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubsetneq}{\mathrel{\unicodex{022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupsetneq}{\mathrel{\unicodex{022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicodex{022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicodex{022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicodex{022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodedots}{\mathord{\unicodex{022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicodex{022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicodex{02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicodex{02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicodex{02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicodex{02AB1}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicodex{021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicodex{027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicodex{02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicodex{02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicodex{02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicodex{02258}}}}
271 \CustomizeMathJax{\newcommand{\wedgeq}{\mathrel{\unicodex{02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\unicodex{0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicodex{0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicodex{0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicodex{0225E}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicodex{0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicodex{02262}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\unicodex{02263}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicodex{02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicodex{0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicodex{000B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicodex{000A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicodex{000B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicodex{02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicodex{02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicodex{02423}}}}
291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicodex{025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwtsquare}{\mathord{\unicodex{025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicodex{025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicodex{025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicodex{025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicodex{025BD}}}}

```

---

```

299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlwgwdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlwgwtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlwgwtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgbkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321
322 \CustomizeMathJax{\let\ngets\nleftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsimeq}
324 \CustomizeMathJax{\let\nle\nleq}
325 \CustomizeMathJax{\let\ngt\ngtq}
326
327 \end{warpMathJax}

```

---

### File 250 **lwarp-lineno.sty**

§ 359      Package **lineno**

*(Emulates or patches code by STEPHAN I. BÖTTCHER.)*

Pkg **lineno** **lineno** is partly emulated, but mostly ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```

2 \newcommand*\resetlinenumber[1][\@ne]{}
3
4 \def\linenumbers{%
5 \@ifnextchar[\{\resetlinenumber\}%
6 {\@ifstar{\resetlinenumber}{}}
7 }
8
9 \newcommand*\nolinenumbers{}
10
11 \namedef{linenumbers*}{\par\linenumbers*}
12 \namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumber{\par}

```

```
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder[1]{% redefine per language
63 (line number reference for \detokenize\expandafter{\#1})
64 }
65
66 \newcommand*\lineref}[2][]{\linenoplaceholder{\#2}}
67 \newcommand*\linerefP}[2][]{\linenoplaceholder{\#2}}
68 \newcommand*\linerefR}[2][]{\linenoplaceholder{\#2}}
69
```

```
70 \newcommand\quotelinenumbers
71 {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumbersep
76
77 \quotelinenumbersep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote} {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*} {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110 \LWR@forceminwidth{\bframerule}%
111 \BlockClass[%
112 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113 padding:\LWR@printlength{\bframesep}%
114]{bframe}
115 }
116 {\endBlockClass}
```

---

File 251 **lwarf-lips.sty**

§ 360      Package **lips**

(Emulates or patches code by MATT SWIFT.)

Pkg lips lips is emulated.

```
1 \% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{l warp}{Using the l warp version of package ‘lips’.}%
3 \ProvidesPackage{l warp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{%
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}
```

---

File 252 **l warp-lipsum.sty**

§ 361 Package **lipsum**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg lipsum lipsum is patched for use by l warp.

for HTML output 1 \LWR@ProvidesPackagePass{lipsum}[2021-03-03]

2 \SetListParListEnd{\LWR@closeparagraph}

---

File 253 **l warp-listings.sty**

§ 362 Package **listings**

(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)

Pkg listings listings is supported with some limitations. Text formatting and escape characters are not yet supported.

1 \LWR@ProvidesPackagePass{listings}[2018/09/02]

Force flexible columns. Fixed columns inserts spaces in the PDF output.

2 \lst@column@flexible

Patches to embed listings inside pre tags:

```

3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlst@EveryPar\lst@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{\l@lstlisting}{#1}{#2}}

```

\lstset {*options*}

Use the `listings` literate option to replace HTML entities:

```

9 \def\lstset@#1{\endgroup%
10 % \ifx\empty\@empty#1%
11 % \else\@empty%
12 % \else%
13 \setkeys{lst}{%
14 #1%
15 ,literate=%
16 {<}{\HTMLentity{lt}}{4}%
17 {>}{\HTMLentity{gt}}{4}%
18 {'}{\HTMLentity{apos}}{6}%
19 {'}{\HTMLentity{grave}}{7}%

```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to & elsewhere. Sanitizing the double quote interferes with `listings`' conversion of visible spaces inside strings.

```

20 }%
21 % \fi%
22 }

```

\lst@Init {*backslash-processing*} Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the `listings` initialization:

```
24 \LWR@traceinfo{\lst@Init}%

```

\LWR@forcenewpage is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```

25 \lst@ifdisplaystyle% lwarp
26 \LWR@forcenewpage% lwarp
27 \fi% lwarp

```

Escapes do not work yet, and are disabled:

```

28 \let\lst@ifmathescape\iffalse% lwarp
29 \let\lst@DefEsc\relax% lwarp
30 \def\lst@escapebegin{}% lwarp
31 \def\lst@escapeend{}% lwarp

32 \renewcommand*{\@capttype}{\lstlisting}% lwarp
33 \let\lst@aboveskip\z@\let\lst@belowskip\z@% lwarp
34 \gdef\lst@boxpos{t}% lwarp

```

```

35 \let\lst@frame\@empty% lwarp
36 \let\lst@frametshape\@empty% lwarp
37 \let\lst@framershape\@empty% lwarp
38 \let\lst@framebshape\@empty% lwarp
39 \let\lst@framelshape\@empty% lwarp
40 \lstframe@\lst@frameround ffff\relax% lwarp
41 \lst@multicols@\empty% lwarp
42 \begingroup%

```

Inside the listing, temporarily prevent underfull \hbox warnings.

```

43 \hbadness=10000\relax%
44
45 \ifx\lst@float\relax\else%
46 \edef@\tempa{\noexpand\lst@beginfloat{lstlisting}[\lst@float]}%
47 \expandafter\tempa%
48 \fi%
49 \ifx\lst@multicols@\empty\else%
50 \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
51 \expandafter\lst@next%
52 \fi%
53 \ifhmode\ifinner \lst@boxtrue \fi\fi%
54 \lst@ifbox%
55 \lsthk@BoxUnsafe%
56 \hbox to\z@\bgroup%
57 $ \if t\lst@boxpos \vtop%
58 \else \if b\lst@boxpos \vbox%
59 \else \vcenter \fi\fi%
60 \bgroup \par\noindent%
61 \else%
62 \lst@ifdisplaystyle%
63 \lst@EveryDisplay%
64 \par\penalty-50\relax%
65 \vspace\lst@aboveskip%
66 \fi%
67 \normalbaselines%
68 \abovecaptionskip\lst@abovecaption\relax%
69 \belowcaptionskip\lst@belowcaption\relax%
70 \lst@MakeCaption t%

```

Use the overall listing label instead of the line number label:

```

71 \LWR@traceinfo{\lst@Init: defining current label !@\currentlabel!}%
72 \let\LWR@listings@currentlabel@\currentlabel% lwarp
73 \LWR@traceinfo{\lst@Init: defining current label !\cref@\currentlabel!}%
74 \let\LWR@listings@cref@\currentlabel\cref@\currentlabel% lwarp

75 \LWR@traceinfo{\lst@Init: preinit and init}%
76 \lsthk@PreInit \lsthk@Init%

77 \let@\currentlabel\LWR@listings@currentlabel% lwarp
78 \let\cref@\currentlabel\LWR@listings@cref@\currentlabel% lwarp

79 \LWR@traceinfo{\lst@Init: M}%
80 \lst@ifdisplaystyle
81 \global\let\lst@ltxlabel\empty
82 \if@inlabel

```

```

83 \lst@ifresetmargins
84 \leavevmode
85 \else
86 \xdef\lst@ltxlabel{\the\everypar}%
87 \lst@AddTo\lst@ltxlabel{%
88 \global\let\lst@ltxlabel\empty
89 \everypar{\lsthk@EveryLine\lsthk@EveryPar}}%
90 \fi
91 \fi
92 \everypar\expandafter{\lst@ltxlabel
93 \lsthk@EveryLine\lsthk@EveryPar}%
94 \else
95 \everypar{%
96 \let\lst@NewLine\empty
97 \fi
98 \LWR@traceinfo{lst@Init: P}%
99 \lsthk@InitVars \lsthk@InitVarsBOL
100 \lst@Let[13]\lst@MProcessListing
101 \let\lst@Backslash#1%
102 \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
103 \lst@InitFinalize%
104 \LWR@traceinfo{lst@Init: S}%

```

Avoids extra horizontal space:

```

105 \def\lst@framelr{}% lwarp
106 \LWR@traceinfo{lst@Init: finished origlst@Init}%
107 \lst@ifdisplaystyle% lwarp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```

108 \LWR@traceinfo{lst@Init: About to create verbatim.}%
109 \let\lsthk@EveryPar\relax% lwarp
110 \LWR@atbeginverbatim{programlisting}% lwarp
111
112 \let\lsthk@EveryPar\LWR@origlsthkEveryPar% lwarp
113 \else% lwarp

```

Inline, so open a <span>:

```

114 \ifbool{\LWR@verbtags}{\LWR@htmlltag{%
115 span class=\textquotedbl{}inlineprogramlisting\textquotedbl% lwarp
116 }}{}% lwarp
117 \fi% lwarp
118 \LWR@traceinfo{lst@Init: done}%
119 }

```

\lst@DeInit     Done at the end of a listing.

```

120 \renewcommand*\lst@DeInit{%
121 \LWR@traceinfo{lst@DeInit}%
122 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```
123 \let\lst@EveryPar\relax%
124 \LWR@afterendverbatim%
125 \let\lst@EveryPar\LWR@origlstkEveryPar%
126 \else%
```

Inline, so create the closing </span>:

```
127 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
128 \fi%
```

Final listings deinit:

```
129 \lst@XPrintToken \lst@EOLUpdate
130 \global\advance\lst@newlines\m@ne
131 \lst@ifshowlines
132 \lst@DoNewLines
133 \else
134 \setbox\@tempboxa\vbox{\lst@DoNewLines}%
135 \fi
136 \lst@ifdisplaystyle \par\removelastskip \fi
137 \lst@ExitVars\everypar{}\lst@DeInit\normalbaselines\normalcolor
138 \lst@MakeCaption b%
139 \lst@ifbox
140 \egroup $\\hss \egroup
141 \vrule@width\lst@maxwidth@height\z@\@depth\z@
142 \else
143 \lst@ifdisplaystyle
144 \par\penalty-50\vspace\lst@belowskip
145 \fi
146 \fi
147 \ifx\lst@multicols@\empty\else
148 \def\lst@next{\global\let\@checkend\@gobble
149 \endmulticols
150 \global\let\@checkend\lst@@checkend}
151 \expandafter\lst@next
152 \fi
153 \ifx\lst@float\relax\else
154 \expandafter\lst@endfloat
155 \fi
156 \endgroup
157 \LWR@traceinfo{\lst@DeInit done}%
158 }
```

\lst@MakeCaption {*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```
159 \def\lst@MakeCaption#1{%
160 \LWR@traceinfo{\lst@MakeCaption at #1}%
161 \lst@ifdisplaystyle
162 \LWR@traceinfo{\lst@MakeCaption: making a listings display caption}%
163 \ifx #1t%
164 \ifx\lst@@caption\empty\expandafter\lst@HRefStepCounter \else
165 \expandafter\refstepcounter
166 \fi {\lstlisting}%

```

```

167 % \LWR@traceinfo{About to assign label: !\lst@label!}%
168 % \ifx\lst@label\empty\else
169 % \label{\lst@label}\fi
170 % \LWR@traceinfo{Finished assigning the label.}%
171 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
172 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
173 \lst@ifnolol\else
174 \ifx\lst@caption\empty
175 \ifx\lst@caption\empty
176 \ifx\lst@intname\empty
177 \else
178 \def\lst@temp{ }%
179 \ifx\lst@intname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for **lwarp**:

```

180 \LWR@traceinfo{lst@MakeCaption: addcontents lst@name: -\lst@name-}%
181 % \addcontentsline{lol}{lstlisting}{\lst@name}
182 \fi
183 \fi
184 \fi
185 \else

```

This would have to be modified for **lwarp**:

```

186 \LWR@traceinfo{lst@MakeCaption: addcontents lst@@caption: -\lst@@caption-}%
187 \addcontentsline{lol}{lstlisting}%
188 {\protect\numberline{\thelstlisting}%
189 {\protect\ignorespaces \LWR@isolate{\lst@@caption} \protect\relax}}%
190 \fi
191 \fi
192 \fi
193 \ifx\lst@caption\empty\else
194 \LWR@traceinfo{lst@MakeCaption: lst@caption not empty-}%
195 \lst@ifSubstring #1\lst@captionpos
196 {\begingroup
197 \LWR@traceinfo{lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

198 % \let@\vskip\vskip
199 % \def\vskip{\afterassignment\lst@vskip \tempskipa}%
200 % \def\lst@vskip{\nobreak\@vskip\tempskipa\nobreak}%
201 % \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
202 % \ifx #1\allowbreak \fi
203 \ifx\lst@title\empty

```

New **lwarp** code to create a caption:

```

204 \LWR@stopars% lwarp
205 \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}%
206 \else

```

New **lwarp** code to create a title:

```

207 % \lst@maketitle\lst@title % (AS)
208 \LWR@traceinfo{lst@MakeCaption: Making title: \lst@title}%
209 \begin{BlockClass}{lstlistingtitle}% lwarp
210 \lst@maketitle\lst@title% lwarp

```

```

211 \end{BlockClass}%
212 \fi%
213 \LWR@traceinfo{lst@MakeCaption: About to assign label: !\lst@label!}%
214 \ifx\lst@label\@empty\else%
215 \leavevmode% gets rid of bad space factor error
216 \GetTitleStringExpand{\lst@caption}%
217 \edef\LWR@lntemp{\GetTitleStringResult}%
218 \edef@\currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
219 \label{\lst@label}\fi%
220 \LWR@traceinfo{lst@MakeCaption: Finished assigning the label.}%

```

Not needed for lwarp:

```

221 % \ifx #1b\allowbreak \fi
222 \endgroup{}%
223 \fi
224 \LWR@traceinfo{lst@MakeCaption: end of making a listings display caption}%
225 \else
226 \LWR@traceinfo{lst@MakeCaption: INLINE}%
227 \fi
228 \LWR@traceinfo{lst@MakeCaption: done at #1}%
229 }
230
231 \renewcommand{\lst@maketitle}[1]{%
232 \LWR@isolate{#1}%
233 }%
234

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field \VerbatimHTMLWidth wide.

```

235 \lst@Key{numbers}{none}{%
236 \let\lst@PlaceNumber\empty
237 \LSTKV@SwitchCases{#1}%
238 {none:\%
239 left:\def\lst@PlaceNumber{%

```

For now, lwarp places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

240 % \LWR@origllap{%
241 \LWR@orignormalfont%
242 \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
243 }
244 }\\%
245 right:\def\lst@PlaceNumber{\LWR@origllap{\LWR@orignormalfont
246 \kern 6in \kern\lst@numbersep
247 \lst@numberstyle{\thelstnumber}}}%
248 }{\PackageError{lwarp-listings}{Numbers #1 unknown}@ehc}%

```

---

**File 254 l warp-listliketab.sty****§ 363 Package** **listliketab****Pkg** listliketab listliketab is ignored.**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

2 \newcommand*\storestyleof[1]{}
3 \newcommand*\storeliststyle(){}
4 \newenvironment{listliketab}{}{}
```

---

**File 255 l warp-lltjext.sty****§ 364 Package** **lltjext***(Emulates or patches code by THE LUATEX-JA PROJECT TEAM.)***Pkg** lltjext lltjext is patched for use by l warp.**for HTML output:**

```
1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

2 \protected\def\yoko{%
3 \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensushi}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d> d() o}{}
22
23 \let\captionondir\relax
24 \RenewDocumentEnvironment{\LWR@HTML@minipage}{d> O{t} O{} O{t} m}
25 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26 {\endLWR@HTML@sub@minipage}
27
```

```
28 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}{%
29 {%
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6%
33 \end{minipage}%
34 }%
35%
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox[#2]{#4}%
39 }
```

## File 256 l warp-lltjp-tascmac.sty

§ 365 Package **lltjp-tascmac**

Pkg lltjp-tascmac lltjp-tascmac is a patch for tascmac, and is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

File 257 **lwarp-longtable.sty**

§ 366 Package **longtable**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg longtable longtable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

**⚠ Misplaced \noalign** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

**⚠ \kill** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

**⚠ lateximage** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

Env `longtable` \* [*horizontalignment*] {*colspec*} Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options [c], [l], and [r] are ignored.

```
4 \newenvironment{longtable*}[2][]{
5 \LWR@floatbegin{table}%
6 \ifdef{\setcaptiontype}{% caption package:
7 \setcaptiontype{\LTcaptype}%
8 \caption@setoptions{longtable}%
9 \caption@setoptions{@longtable}%
10 \caption@LT@setup%
11 }{% w/o caption package:
12 \renewcommand*{\@captiontype}{\LTcaptype}%
13 }%
14 \booltrue{LWR@starredlongtable}%
15 \boolfalse{LWR@longtable@havehead}%
16 \let\captionlistentry\LWR@LTcaptionlistentry%
17 \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{
22 \LWR@floatbegin{table}%
23 \ifdef{\setcaptiontype}{% caption package:
24 \setcaptiontype{\LTcaptype}%
25 \caption@setoptions{longtable}%
26 \caption@setoptions{@longtable}%
27 \caption@LT@setup%
28 }{% w/o caption package:
29 \renewcommand*{\@captiontype}{\LTcaptype}%
30 }%
```

```

31 \refstepcounter{\LTcaptive}%
32 \boolfalse{LWR@longtable@havehead}%
33 \let\captionlistentry\LWR@LTcaptionlistentry%
34 \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}

```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in \warpprintonly:

```

38 \newcommand*{\LWR@longtable@headerror}{%
39 \PackageError{lwarp-longtable}%
40 {For longtable:\MessageBreak
41 1: Keep either one of an \protect\endhead\space or\MessageBreak
42 \space\protect\endfirsthead\space phrase as-is,\MessageBreak
43 \space to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45 \space\protect\warpprintonly\space macro,
46 to be ignored by HTML.\MessageBreak
47 3: At the end of the table,\MessageBreak
48 \space add a final footer for HTML\MessageBreak
49 \space inside a \protect\warpHTMLonly\space macro.
50 This can be\MessageBreak
51 \space a copy of an \protect\endfoot\space or
52 \protect\endfirstfoot\MessageBreak
53 \space phrase, but without the actual \protect\endfoot\MessageBreak
54 \space or \protect\endfirstfoot\space macros.\MessageBreak
55 \space If using threeparttablex, add\MessageBreak
56 \space \protect\insertTableNotes\space here,
57 optionally with\MessageBreak
58 \space \protect\UseMinipageWidths\space in front.\MessageBreak
59 See the Lwarp documentation regarding\MessageBreak
60 longtables and threeparttablex}%
61 {See the Lwarp documentation regarding longtables and threeparttablex.}%
62 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{LWR@longtable@havehead}%
65 {\LWR@longtable@headerror}%
66 {%
67 \booltrue{LWR@longtable@havehead}%
68 \LWR@tabularendofline% throws away options // [dim] and // *
69 }%
70 }

```

Error if more than one of these is outside of warpprint.

```

71 \def\endhead{\LWR@longtable@maybeheaderror}%
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of `\warpprint`.

```
73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}

75 \let\tabularnewline\\
76 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}

78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTright}
81 \newlength{\LTpre}
82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}

84 \LetLtxMacro{\LWR@origkill}{\kill}
85 \renewcommand*\kill{\LWR@tabularendofline}
86 \appto{\LWR@restoreorigformatting}{%
87 \LetLtxMacro{\kill}{\LWR@origkill}%
88 }
```

---

### File 258 **l warp-lpic.sty**

§ 367      Package **lpic**

(Emulates or patches code by R. MATVEYEV.)

Pkg **lpic** **lpic** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]

```
2 \BeforeBeginEnvironment{lpic}{%
3 \begin{lateximage}[-lpic-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}
```

---

### File 259 **l warp-lscape.sty**

§ 368      Package **lscape**

(Emulates or patches code by D. P. CARLISLE.)

Pkg **lscape** **lscape** is ignored.

for HTML output: Discard all options for **l warp-lscape**.

```
1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]
```

```
2 \newenvironment*{landscape}{}{}
```

---

**File 260 l warp-ltablex.sty****§ 369 Package ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

Pkg ltablex ltablex is emulated by l warp.

**for HTML output:** Relies on tabularx.

```
1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable[#3]}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable[#3]}
12 {\endlongtable}
13
14 \newcommand*{\keepXColumns}={}
15 \newcommand*{\convertXColumns}{}

```

**File 261 l warp-ltcaption.sty****§ 370 Package ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg ltcaption ltcaption is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]

\LTcaptype is already defined by l warp.

longtable\* is already defined by l warp-longtable.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginsfalse}{}

```

---

**File 262 l warp-ltxgrid.sty****§ 371 Package ltxgrid**

Pkg ltxgrid ltxgrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

```
2 \newcommand*\{\\onecolumngrid}{}
3 \newcommand*\{\\twocolumngrid}{}
4 \newcommand*\{\\removestuff}{}
5 \newcommand*\{\\addstuff}[2]{}
6 \newcommand*\{\\replacestuff}[2]{}
```

---

**File 263 l warp-ltxtable.sty****§ 372 Package ltxtable**

Pkg ltxtable ltxtable is emulated.

**⚠ table numbering** The print version does not seem to honor longtable\* from the caption package, while l warp does.

**for HTML output:** 1 \RequirePackage{tabularx, longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]

```
\LTXtable {\langle width\rangle} {\langle file\rangle}
3 \newcommand*\{\\LTXtable}[2]{%
4 \input{\#2}%
5 }
```

---

**File 264 l warp-lua-check-hyphen.sty****§ 373 Package lua-check-hyphen**

Pkg lua-check-hyphen lua-check-hyphen is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]
2 \newcommand\*\{\\LuaCheckHyphen}[1]{}

---

File 265 **l warp-lua-visual-debug.sty**

§ 374 Package **lua-visual-debug**

Pkg lua-visual-debug lua-visual-debug is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]

---

File 266 **l warp-luacolor.sty**

§ 375 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

2 \newcommand{\luacolorProcessBox}[1]{}  

---

File 267 **l warp-luamplib.sty**

§ 376 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DOHYUN.)

Pkg luamplib luamplib is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

2 \BeforeBeginEnvironment{mplibcode}{%  
3 \begin{lateximage}[-mplibcode-\PackageDiagramAltText] %  
4 }  
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}

---

File 268 **l warp-luatexko.sty**

§ 377 Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

Pkg luatexko luatexko is patched for use by l warp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \underline, etc.

```
for HTML output: 1 \LWR@ProvidesPackagePass{lualatexko}[2021/07/10]

2 \protected\def\typesetvertical{}
3 \protected\def\typesethorizontal{}
4
5 \def\verticaltypesetting{\BlockClass{verticalrl}}
6 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
7 \def\endverticaltypesetting{\endBlockClass}
8
9 \protected\def\vertical#1{\BlockClass{verticalrl}}
10 \protected\def\endvertical{\endBlockClass}
11 \protected\def\horizontal#1{\BlockClass{horizontaltb}}
12 \protected\def\endhorizontal{\endBlockClass}
13 \DeclareDocumentCommand{\vertlatin}{m}{#1}

14 \newcommand{\LWR@HTML@dotemph}[1]{%
15 % \uline{#1}%
16 \InlineClass{text-emphasis-style: dot}{dotemph}{#1}%
17 }
18 \LWR@formatted{dotemph}

19 \newcommand{\LWR@HTML@ruby}[2]{%
20 \LWR@htmllagc{ruby}%
21 #1%
22 \LWR@htmllagc{rp}(\LWR@htmllagc{/rp}%
23 \LWR@htmllagc{rt}#2\LWR@htmllagc{/rt}%
24 \LWR@htmllagc{rp})\LWR@htmllagc{/rp}%
25 \LWR@htmllagc{/ruby}%
26 }
27 \LWR@formatted{ruby}
```

The following is modified from `lwarp-ulem`:

```
28 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
29 \InlineClass%
30 (text-decoration:underline; text-decoration-skip: auto)%
31 [%]
32 text-underline-offset: \ulinedown ;
33 text-decoration-thickness: \ulinewidth%
34]%
35 {uline}{\LWR@isolate{#1}}%
36 }
37 \LWR@formatted{uline}
38
39 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
40 \InlineClass%
41 (%
42 text-decoration:underline; text-decoration-skip: auto;%
43 text-decoration-style:double%
44)%
45 [%]
46 text-underline-offset: \ulinedown ;
47 text-decoration-thickness: \ulinewidth%
48]%
```

```
49 {uuline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{uuline}
52
53 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
54 \InlineClass%
55 (%
56 text-decoration:underline; text-decoration-skip: auto;%
57 text-decoration-style:wavy%
58)%
59 [%
60 text-underline-offset: \ulinedown ;
61 text-decoration-thickness: \ulinewidth%
62]%
63 {uwave}{\LWR@isolate{#1}}%
64 }
65 \LWR@formatted{uwave}
66
67 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
68 \InlineClass%
69 (text-decoration:line-through)%
70 [text-decoration-thickness: \ulinewidth]%
71 {sout}{\LWR@isolate{#1}}%
72 }
73 \LWR@formatted{sout}
74
75 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
76 \InlineClass%
77 (text-decoration:line-through)%
78 [text-decoration-thickness: \ulinewidth]%
79 {xout}{\LWR@isolate{#1}}%
80 }
81 \LWR@formatted{xout}
82
83 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
84 \InlineClass%
85 (%
86 text-decoration:underline;%
87 text-decoration-skip: auto;%
88 text-decoration-style:dashed%
89)%
90 [%
91 text-underline-offset: \ulinedown ;
92 text-decoration-thickness: \ulinewidth%
93]%
94 {dashuline}{\LWR@isolate{#1}}%
95 }
96 \LWR@formatted{dashuline}
97
98 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
99 \InlineClass%
100 (%
101 text-decoration:underline;%
102 text-decoration-skip: auto;%
103 text-decoration-style: dotted%
```

```

104)%
105 [%

106 text-underline-offset: \ulinedown ;

107 text-decoration-thickness: \ulinewidth%
108]%
109 {dotuline}{\LWR@isolate{#1}}%
110 }
111 \LWR@formatted{dotuline}

```

---

File 269 **lwarf-luatodonotes.sty**

## § 378 Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

Pkg luatodonotes luatodonotes is emulated.

The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{\ldo}{#1}{#2}}

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*{\todototoc}{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19 {\@todonotes@currentbordercolor}
20 {\@todonotes@currentbackgroundcolor}
21 {\arabic{@todonotes@numberoftodonotes}}%
22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%

```

```
27 {\@todonotes@currentbordercolor}%
28 {\@todonotes@currentbackgroundcolor}%
29 {%
30 \if@todonotes@authorgiven%
31 {\@todonotes@author:\,}%
32 \fi%
33 \@todonotes@text%
34 }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38 \if@todonotes@authorgiven%
39 \@todonotes@author\par%
40 \fi%
41 \arabic{@todonotes@numberoftodonotes}: %
42 \fcolorbox{%
43 {\@todonotes@currentbordercolor}%
44 {\@todonotes@currentbackgroundcolor}%
45 }{%
46 \@todonotes@sizecommand%
47 \@todonotes@text %
48 }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock{%
55 {\@todonotes@currentbordercolor}%
56 {\@todonotes@currentfgcolor}%
57 {%
58 \setlength{\fboxrule}{4pt}%
59 \fcolorbox{red}{white}{Missing figure} \quad #2%
60 }%
61 }%
62
63 \LetLtxMacro{\LWRTODONOTES@orig@todocommon}{\@todocommon}
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*{\phantomsection}{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }%
71
72 \renewcommand{\@todoarea}[3][]{%
73 \@todonotes@areaselectedtrue%
74 \@todocommon{#1}{#2}%
75 \@todonotes@textmark@highlight{#3}%
76 \zref@label{@todonotes@\arabic{@todonotes@numberoftodonotes}@end}%
77 }%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@origpound{}B3FFB3]{highlight}{#1}%

```

```
82 }
83
84 \fi% \if@todonotes@disabled
```

---

### File 270 **l warp-luavlna.sty**

#### § 379 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

Pkg luavlna luavlna is patched for use by l warp.

The package is disabled for HTML output, due to incompatibilities with l warp's handling of math SVG images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]

```
2 \preventsingleoff
3 \LetLtxMacro\preventsingleon\preventsingleoff
```

---

### File 271 **l warp-lyluatex.sty**

#### § 380 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS Liska, BR. SAMUEL SPRINGUEL.)

Pkg lyluatex lyluatex is patched for use by l warp.

For the first compile, to set *l warpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

⚠ **images** After compiling the document with **l warpmk html**, use **l warpmk l images** to convert the Lilypond images for HTML.

**css** The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

⚠ **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

⚠ **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[...,\line-width-0.8\linewidth,...]{lyluatex}
```

 **raw-pdf** If using raw-pdf, the resulting PDF images must be converted to SVG:

Enter ⇒ **lwarpmk pdftosvg tmp-ly/\*.pdf**

**for HTML output:**

```

1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2019/05/27]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond-\PackageDiagramAltText}
```

```
\ly@compilescore {⟨Lilypond object⟩}
5 \LetLtxMacro{\LWR@orig@ly@compilescore}{\ly@compilescore}
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```

9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{\LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined \includegraphics which is used by *lyluatex.lua* to insert the *Lilypond* score if insert=systems is used. This is now placed inside a *lateximage*, which itself is placed inside a <span> of class *lyluatex*.

\LWR@addbaselinemarker preserves the left margins.

```

12 \renewcommand{\includegraphics}[2][]{
13 \InlineClass{lyluatex}{%
14 \begin{lateximage}[\LyluatexImageAltText]%
15 \LWR@addbaselinemarker%
16 \LWR@origincludegraphics{##2}%
17 \end{lateximage}%
18 }%
19 }%
```

From the original:

```

20 \ly@setunits%
21 \directlua{
22 ly_opts:set_option('currfiledir', [[\currfiledir]])
23 ly_opts:set_option('twoside', '\ly@istwosided')
24 #1
25 }%
26 \ly@resetunits%
27 \ly@currentfonts%
```

The fullpage version is set inside an HTML <div>:

```

28 \directlua{
29 if (ly.score.insert == 'fullpage') then
```

---

```

30 tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
31 end
32 }%

```

Generate the score:

```
33 \directlua{ly.score:process()}%
```

Close the <div>:

```

34 \directlua{
35 if (ly.score.insert == 'fullpage') then
36 tex.print{[[\string\end{BlockClass}]]}
37 end
38 }%

```

Move to a new page and renew the regular page geometry:

```

39 \LWR@maybe@orignewpage%
40 \LWR@origrestoregeometry%

```

End of the local group.

```

41 \endgroup%
42 }

```

In **HTML** the following generates an error, so is removed:

```

43 \xpatchcmd{\endly@bufferenv}
44 {\hspace{0pt}\\"}
45 {}
46 {}
47 {\LWR@patcherror{lyluatex}{endly@bufferenv}}

```

---

## File 272 **lwarp-magaz.sty**

### § 381 Package **magaz**

Pkg magaz magaz is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```

2 \newcommand\FirstLine[1]{%
3 \begingroup%
4 \FirstLineFont{%
5 \LWR@textcurrentcolor{%
6 \LWR@textcurrentfont{%
7 #1%
8 }%
9 }%
10 }%
11 \endgroup%
12 }%
13
14 \providecommand\FirstLineFont{\scshape}

```

---

**File 273 l warp-makeidx.sty****§ 382 Package makeidx**

(Emulates or patches code by LATEX PROJECT TEAM.)

Pkg makeidx makeidx is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the l warp core.

\printindex

```
2 \preto\printindex{%
3 \LWR@maybe@orignewpage%
4 \LWR@startpars%
5 }
```

---

**File 274 l warp-manyfoot.sty****§ 383 Package manyfoot**

Pkg manyfoot manyfoot is emulated.

**bigfoot, manyfoot** Verbatim footnotes are not yet supported.

**verbatim**

If using the bigfoot package, and possibly also manyfoot, problems may occur with counter allocation because l warp uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF LATEX. With bigfoot this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining bigfoot or manyfoot footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use XELATEX or LuaLATEX instead of PDF LATEX.

l warp's emulation of bigfoot uses manyfoot, so some of the bigfoot enhancements are included here.

The bigfoot “default” footnote is ignored, using the l warp version instead.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

```
2 \RequirePackage{nccfoots}
```

```

3
4 \newcommand{\extrafootnoterule}{}%
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule[2][0]{}%
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}
13 @onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}%
16
17 \newcommand*\ExtraParaSkip[1]{}%
18
19 \newcommand*\newfootnote[2][plain]{}%
20 \ifstreq{\#2}{default}{}{%
21 \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22 \appto{\LWR@printpendingfootnotes}{%
23 \LWR@printpendingfootnotes{footnote#2}%
24 }%
25 \long\csdef{Footnotetext#2}##1##2{%
26 \NCC@makefnmark{##1}%
27 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
28 }%
29 \long\csdef{Footnotetext#2+}##1##2{%
30 \NCC@makefnmark{##1}%
31 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
32 }%
33 }% not "default"
34 }
35 @onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote[2][plain]{}%
38 \@ifnextchar[%
39 {\LWR@manyfoot@declare{\#1}{\#2}}%
40 {\LWR@manyfoot@declare{\#1}{\#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{}%
44 \ifstreq{\#2}{default}{}{%
45 \newfootnote[\#1]{\#2}%
46 \newcounter{footnote#2}%
47 \newcounter{footnote#2Reset}%
48 \setcounter{footnote#2Reset}{0}%
49 \csdef{thefootnote#2}{%
50 \expandafter\noexpand\csname @#3\endcsname%
51 \expandafter\noexpand\csname c@footnote#2\endcsname%
52 }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```
53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
```

---

```

54 \stepcounter{footnote#2}%
55 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56 \@footnotemark%
57 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60 \stepcounter{footnote#2}%
61 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62 \@footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%
69 \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%
72 \Footnotemark{##1}%
73 \csuse{Footnotetext#2}{##1}%
74 }%
75 }% not "default"
76 }
77 \onlypreamble\DeclareNewFootnote

```

---

#### File 275 **l warp-marginal.sty**

#### § 384 Package **marginal**

Pkg marginal marginal is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}%
3 \newcommand*{\enlargefreelist}{}%
4 \newcommand*{\onesidemarginals}{}%

```

---

#### File 276 **l warp-marginfit.sty**

#### § 385 Package **marginfit**

Pkg marginfit marginfit is ignored.

**for HTML output:** Discard all options for l warp-marginfit:

```
1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]
```

---

**File 277 l warp-marginfix.sty****§ 386 Package marginfix**

(Emulates or patches code by STEPHEN HICKS.)

Pkg marginfix marginfix is ignored.

**for HTML output:** Discard all options for l warp-marginfix:

```
1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

2 \newcommand*{\marginskip}[1]{}
3 \newcommand*{\clearmargin}{}
4 \newcommand*{\softclearmargin}{}
5 \newcommand*{\extendmargin}[1]{}
6 \newcommand*{\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*{\blockmargin}[1][]{}
10 \newcommand*{\unblockmargin}[1][]{}
11 \newcommand*{\marginphantom}[2][]{}
```

---

**File 278 l warp-marginnote.sty****§ 387 Package marginnote**

(Emulates or patches code by MARKUS KOHM.)

Pkg marginnote marginnote is emulated.

**for HTML output:** Discard all options for l warp-marginnote:

```
1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{\#2}{}}

3 \newcommand*{\marginnotefleftadjust}{}
4 \newcommand*{\marginnoterightadjust}{}
5 \newcommand*{\marginnotetextwidth}{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*{\marginnotevadjust}{}
8 \newcommand*{\marginfont}{}
9 \newcommand*{\raggedleftmarginnote}{}
10 \newcommand*{\raggedrightmarginnote}{}

11 \appto{\LWR@restoreorigformatting}{%
```

---

```
12 \RenewDocumentCommand{\marginnote}{+o +m o}{}{}
13 }
```

For MATHJAX:

```
14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][]{\qquad\small\textrm{#1}}\LWRmarginnote}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\qqquad{\small\textrm{#2}}}\LWRmarginnote}
17 \end{warpMathJax}
```

---

### File 279 **l warp-marvosym.sty**

#### § 388 Package **marvosym**

*(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)*

Pkg marvosym marvosym is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:** 1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]

```
2 \renewcommand{\mvchr}[1]{%
3 \begin{lateximage}*[\symbol #1][marvosym #1]%
4 \mvs\char#1%
5 \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9 \begin{lateximage}%
10 \mvs #1%
11 \end{lateximage}%
12 }
```

---

### File 280 **l warp-mathalpha.sty**

#### § 389 Package **mathalpha**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg mathalpha mathalpha is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be supported by MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathalpha}[2019/10/05]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}

---

```

6 \CustomizeMathJax{\newcommand{\mathbfrak}[1]{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8 \end{warpMathJax}

```

---

File 281 **l warp-mathastext.sty**

§ 390 Package **mathastext**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg **mathastext** **mathastext** is used as-is for SVG math, and emulated for MATHJAX.

for **HTML output**: 1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 % \LWR@mathjax@addgreek@l@it{}{}
7 \else
8 \ifmst@upgreek
9 \LWR@mathjax@addgreek@l@up{}{}
10 \else
11 \ifmst@frenchmath
12 \LWR@mathjax@addgreek@l@up{}{}
13 \else
14 \ifmst@italic
15 % \LWR@mathjax@addgreek@l@it{}{}
16 \else
17 \LWR@mathjax@addgreek@l@up{}{}
18 \fi
19 \fi
20 \fi
21 \fi
22
23 \ifcase\mst@greek@select
24 \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 % \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{\#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{\#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{\{\#1\}}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{\{\#1\}}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\inftypsi}{\mathord{\text{\rm \scriptsize \texttt{inftypsi}}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\text{\rm \scriptsize \texttt{proptopsy}}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}

```

---

```

41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\text{\scriptsize{\texttt{\&unicode{x2234}}}}}}}
45 \end{warpMathJax}

```

---

File 282 **l warp-mathcomp.sty**

§ 391 Package **mathcomp**

*(Emulates or patches code by TILMANN BÖS.)*

Pkg **mathcomp** **mathcomp** is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tcelsius}{\mathrm{^\circ C}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\mu}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\mathrm{\times 10^3}}}
7 \CustomizeMathJax{\newcommand{\cpertenthousand}{\mathrm{\times 10^{-3}}}}
8 \CustomizeMathJax{\newcommand{\cdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\cdigitoldstyle}[1]{\mathrm{#1}}}
10 \end{warpMathJax}

```

---

File 283 **l warp-mathdesign.sty**

§ 392 Package **mathdesign**

*(Emulates or patches code by PAUL PICHAUREAU.)*

Pkg **mathdesign** **mathdesign** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options except `greekuppercase` and `greeklowercase`. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}

```

Adapt to **mathdesign** inconsistency:

```

20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammaait}{\mathit{\digammaup}}}

```

Extra symbols:

```

22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\text{\LWRoverlaysymbols{/}}}\text{\scriptsize\texttt{\&}}}{}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\text{\LWRoverlaysymbols{/}}}\text{\scriptsize\texttt{\&}}}{}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\text{\scriptsize\texttt{\&}}}{}}

```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctr-clockwise}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
30 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{\&}}}{}\limits}}

```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\text{\scriptsize\texttt{\&}}}}
33 \CustomizeMathJax{\newcommand{\P}{\text{\scriptsize\texttt{\&}}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\text{\scriptsize\texttt{\&}}}}
35 \CustomizeMathJax{\newcommand{\dag}{\text{\scriptsize\texttt{\&}}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\text{\scriptsize\texttt{\&}}}}

```

Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\text{\scriptsize\texttt{\&}}}}}

```

---

```

38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\langle}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\rangle}}
43
44 \end{warpMathJax}

```

---

File 284 **l warp-mathdots.sty**

§ 393 Package **mathdots**

*(Emulates or patches code by DAN LUECKING.)*

Pkg **mathdots** **mathdots** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\cdots}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originalddot\ddot}
11 \CustomizeMathJax{\let\originalddd\dddot}
12 \end{warpMathJax}

```

---

File 285 **l warp-mathfixs.sty**

§ 394 Package **mathfixs**

*(Emulates or patches code by NIKLAS BEISERT.)*

Pkg **mathfixs** **mathfixs** is used as-is for SVG math, and is emulated for MATHJAX.

 Greek letters are unchanged.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{\#1}{\#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{\{\!\!{}^{\#1}\!\!/\!\!{}_{\#2}\!\!}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{\#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\cdot}}
8 \end{warpMathJax}

```

---

**File 286 l warp-mathpazo.sty****§ 395 Package mathpazo**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg mathpazo mathpazo is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}
```

---

**File 287 l warp-mathptmx.sty****§ 396 Package mathptmx**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg mathptmx mathptmx is used as-is for SVG math, and is emulated for MATHJAX.

**⚠ limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

---

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \@ifpackagewith{mathptmx}{slantedGreek}
8 {\LWR@mathjax@addgreek@u@it*{}{}}
9 {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}

```

---

File 288 **lwarp-mathssty.sty**

§ 397 Package **mathspec**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

Pkg **mathspec** **mathspec** is used as-is with SVG math, and is emulated for MATHJAX.

⚠ **quotes** Double quotes (\ " and the " character) are removed during MATHJAX emulation, but this also includes inside \text.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

Neutralize double quotes (" and \"):

```
5 \booltrue{\LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@value %% If Greek Uppercase Regular
8 \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10 \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12 \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@value %% If Greek Lowercase Regular
15 \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17 \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19 \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }

```

Swap definitions according the `mathspec` conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24 \eu@ifbooltrue{exchangebetaforms}{
25 \CustomizeMathJax{\let\WRorigbeta\beta}
26 \CustomizeMathJax{\let\beta\varbeta}
27 \CustomizeMathJax{\let\varbeta\WRorigbeta}
28 }
29 \eu@ifbooltrue{exchangeepsilonforms}{
30 \CustomizeMathJax{\let\WRorigepsilon\epsilon}
31 \CustomizeMathJax{\let\epsilon\varepsilon}
32 \CustomizeMathJax{\let\varepsilon\WRorigepsilon}
33 }
34 \eu@ifbooltrue{exchangethetafoms}{
35 \CustomizeMathJax{\let\WRorigtheta\theta}
36 \CustomizeMathJax{\let\theta\vartheta}
37 \CustomizeMathJax{\let\vartheta\WRorigtheta}
38 }
39 \eu@ifbooltrue{exchangepkappaforms}{
40 \CustomizeMathJax{\let\WRorigkappa\kappa}
41 \CustomizeMathJax{\let\kappa\varkappa}
42 \CustomizeMathJax{\let\varkappa\WRorigkappa}
43 }
44 \eu@ifbooltrue{exchangepiiforms}{
45 \CustomizeMathJax{\let\WRorigpi\pi}
46 \CustomizeMathJax{\let\pi\varpi}
47 \CustomizeMathJax{\let\varpi\WRorigpi}
48 }
49 \eu@ifbooltrue{exchangerhoforms}{
50 \CustomizeMathJax{\let\WRorigrho\rho}
51 \CustomizeMathJax{\let\rho\varrho}
52 \CustomizeMathJax{\let\varrho\WRorigrho}
53 }
54 \eu@ifbooltrue{exchangephiiforms}{
55 \CustomizeMathJax{\let\WRorigphi\phi}
56 \CustomizeMathJax{\let\phi\varphi}
57 \CustomizeMathJax{\let\varphi\WRorigphi}
58 }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61 \eu@ifbooltrue{exchangepkappaforms}{
62 \CustomizeMathJax{\let\WRorigTheta\Theta}
63 \CustomizeMathJax{\let\Theta\varTheta}
64 \CustomizeMathJax{\let\varTheta\WRorigTheta}
65 }
66 }
67 }
```

Append new action to `mathspec`'s `\AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69 {\AtBeginDocument{\LWR@mathspec@varforms}}
70 {}
71 {\LWR@patcherror{mathspec}{exchangeforms}}
```

---

```
72
73 \end{warpMathJax}
```

---

File 289 **l warp-mathtools.sty**

§ 398 Package **mathtools**

*(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)*

Pkg mathtools mathtools is patched for use by l warp. Emulation macros are provided for MATHJAX.

⚠ equation numbering showonlyrefs is disabled, as it conflicts with cleveref, which is used by l warp. Equation numbers may not match the print version.

⚠ italic correction mathic is not emulated for HTML.

⚠ MATHJAX If using MATHJAX:

- mathtools disallowspaces does not work for MATHJAX. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}[p]=1 . . .
\end{gathered}
```

- showonlyrefs does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- alignat in MATHJAX requires math mode, but in LATEX it doesn't. It may be required to use warpHTML and warpprint to isolate a version for each mode.
- \DeclarePairedDelimiter and related must be in the preamble before \begin{document}.

for HTML output: 1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]

```
2 \RequirePackage{graphicx}

3 \MHInternalSyntaxOn
```

Forces showonlyrefs off because l warp uses cleveref, which is not compatible with showonlyrefs.

```
4 \renewcommand*\MT_showonlyrefs_true:{%
5 \PackageWarningNoLine{l warp}
6 {%
7 Mathtools \space showonlyrefs \space conflicts \space
8 with \space cleveref, \MessageBreak
9 which \space is \space used \space by \space l warp, \space
10 so \space showonlyrefs \space is \MessageBreak
11 forced \space off. \space\space
12 Equation \space numbers \space may \space not \space match%
```

```

13 }
14 \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for l warp.

```

17 \renewcommand*\{\MT_mathic_true:\}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

```

```
19 \MHInternalSyntaxOff
```

For MATHJAX.

The MATHJAX package is used, and improvements are added.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
26
27 \CustomizeMathJax{\newcommand{\smashoperator}[2][]{\#2\limits}}
28
29 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
30
31 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
32 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
33
34
35 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][]{\begin{multline*}}}
36 \CustomizeMathJax{\newenvironment{multlined}[1][]{\LWRmultlined}{\end{multline*}}}
37
38 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
39 \CustomizeMathJax{\renewcommand{\shoveleft}[1][]{\LWRorigshoveleft}}
40 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
41 \CustomizeMathJax{\renewcommand{\shoveright}[1][]{\LWRorigshoveright}}
42
43 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{\#1}\notag \\}}
44
45 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiter{\LWRsubstar}}
46 \renewcommand{\DeclarePairedDelimiter}[3]{%
47 \LWR@mathtools@orig{\LWRsubstar{#1}{#2}{#3}}%
48 % starred:
49 \appto{\LWR@customizedMathJax}{\LWRbackslash{}}
50 \appto{\LWR@customizedMathJax}{%
51 \LWRbackslash{}newcommand{\LWRbackslash\macro{#1}}{\LWRsubstar\%}%
52 }%
53 \appto{\LWR@customizedMathJax}{[2][]}%
54 \appto{\LWR@customizedMathJax}{\{\{\}}%
55 \LWR@subcustomizedmathjax{\#1\left.\#2\right.\#1\right.\#3\%}%
56 \appto{\LWR@customizedMathJax}{\{\}}%
57 \appto{\LWR@customizedMathJax}{\LWRbackslash\par\%}%
58 % not starred:

```

```
59 \appto\LWR@customizedMathJax{\LWRbackslash()%
60 \appto\LWR@customizedMathJax{%
61 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubstar\}%
62 }%
63 \appto\LWR@customizedMathJax{[2][]}%
64 \appto\LWR@customizedMathJax{\{\}%
65 \LWR@subcustomizedmathjax{##1##2##1##3}%
66 \appto\LWR@customizedMathJax{\}\}%
67 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
68 % user macro:
69 \appto\LWR@customizedMathJax{\LWRbackslash()%
70 \appto\LWR@customizedMathJax{%
71 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\}%
72 \{\LWRbackslash{}ifstar%
73 \LWRbackslash{}\macrotocname{#1}\LWRsubstar%
74 \LWRbackslash{}\macrotocname{#1}\LWRsubstar%
75 \}%
76 }%
77 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
78 }
79 \@onlypreamble\DeclareParedDelimiter
80
81 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
82
83 \LetLtxMacro\LWR@mathtools@orig\DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
84 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}%
85 \LWR@mathtools@orig\DeclarePairedDelimiterXPP[#1][#2]{#3}{#4}{#5}{#6}{#7}
86 % subsubstar, second opt arg
87 \appto\LWR@customizedMathJax{\LWRbackslash()%
88 \appto\LWR@customizedMathJax{%
89 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubstar\}%
90 }%
91 \appto\LWR@customizedMathJax{[#2]}%
92 \appto\LWR@customizedMathJax{\{\LWRbackslash{}left\}%
93 \LWR@subcustomizedmathjax{#3#4#7}%
94 \appto\LWR@customizedMathJax{\LWRbackslash{}right\}%
95 \LWR@subcustomizedmathjax{#5#6}%
96 \appto\LWR@customizedMathJax{\}\}%
97 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
98 % substar, first opt arg
99 \appto\LWR@customizedMathJax{\LWRbackslash()%
100 \appto\LWR@customizedMathJax{%
101 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubstar\}[1][]%
102 }%
103 \appto\LWR@customizedMathJax{%
104 \{%
105 \LWRbackslash{}def\LWRbackslash{}delimsize{\#1\}%
106 \LWRbackslash\macrotocname{#1}\LWRsubstar
107 \}%
108 }%
109 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
110 % subsubstar, second opt arg
111 \appto\LWR@customizedMathJax{\LWRbackslash()%
112 \appto\LWR@customizedMathJax{%
113 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubstar\}%
```

```
114 }%
115 \appto{\LWR@customizedMathJax{[#2]}%
116 \appto{\LWR@customizedMathJax{\{\{\LWRbackslash{}delimsize}%
117 \LWR@subcustomizedmathjax{#3#4#7}%
118 \appto{\LWR@customizedMathJax{\LWRbackslash{}delimsize}%
119 \LWR@subcustomizedmathjax{#5#6}%
120 \appto{\LWR@customizedMathJax{\}\}}%
121 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}%
122 % subnstar, first opt arg
123 \appto{\LWR@customizedMathJax{\LWRbackslash}%
124 \appto{\LWR@customizedMathJax{%
125 \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\LWRsubnstar\}[1][]}%
126 }%
127 \appto{\LWR@customizedMathJax{%
128 \{%
129 \LWRbackslash{}def{\LWRbackslash{}delimsize{\#1\}}%
130 \LWRbackslash\macrotocname{#1}\LWRsubnstar
131 \}%
132 }%
133 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}%
134 % user macro:
135 \appto{\LWR@customizedMathJax{\LWRbackslash}%
136 \appto{\LWR@customizedMathJax{%
137 \LWRbackslash{}newcommand{\%%
138 \LWRbackslash{}\macrotocname{#1}%
139 \}%
140 \{\LWRbackslash{}ifstar%
141 \LWRbackslash{}\macrotocname{#1}\LWRsubstar%
142 \LWRbackslash{}\macrotocname{#1}\LWRsubnstar%
143 \}%
144 }%
145 \appto{\LWR@customizedMathJax{\LWRbackslash}\par}%
146 }
147 \@onlypreamble\DeclareParedDelimiterXPP
148 \@onlypreamble\DeclareParedDelimiterX
149
150 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\text{\scriptsize\texttt{\{}}}}\text{\scriptsize\texttt{\{}}}}}
151
152 \LetLtxMacro{\LWR@mathtools@orig}{\newgathered\newgathered}
153 \renewcommand{\newgathered}[4]{%
154 \LWR@mathtools@orig{\newgathered{#1}{#2}{#3}{#4}}%
155 \appto{\LWR@customizedMathJax{\LWRbackslash}%
156 \LWR@subcustomizedmathjax{%
157 \newenvironment{#1}{\begin{gathered}}{\end{gathered}}%
158 }%
159 \appto{\LWR@customizedMathJax{\LWRbackslash}}%
160 }
161 \@onlypreamble\newgathered
162
163 \end{warpMathJax}
```

---

File 290 **l warp-mattens.sty**

§ 399 Package **mattens**

(Emulates or patches code by DANIE ELS.)

Pkg mattens mattens is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{
6 \#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattencross{\boldsymbol{\#2}}}}}}%
7 }
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{
10 \#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattencross{\#2}}}}}}%
11 }
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}){
14 \ifstar\LWRmattensstar\LWRmattensnostar%
15 }
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18 \let\LWRmattencross\LWRmattensnull%
19 \let\LWRmattenovercmd\overrightarrow%
20 \let\LWRmattensundercmd\LWRmattensnull%
21 \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\Sa}{%
25 \let\LWRmattencross\LWRmattensnull%
26 \let\LWRmattenovercmd\underrightarrow%
27 \let\LWRmattensundercmd\LWRmattensnull%
28 \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%
32 \let\LWRmattencross\LWRmattensnull%
33 \let\LWRmattenovercmd\overline%
34 \let\LWRmattensundercmd\LWRmattensnull%
35 \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\Sb}{%
39 \let\LWRmattencross\LWRmattensnull%
40 \let\LWRmattenovercmd\underline%
41 \let\LWRmattensundercmd\LWRmattensnull%
42 \LWRmattens%
```

```
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46 \let\LWRmattencross\LWRmattensnull%
47 \let\LWRmattenovercmd\overrightarrow%
48 \let\LWRmattensundercmd\underrightarrow%
49 \LWRmattens%
50 } }
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53 \let\LWRmattencross\LWRmattensnull%
54 \let\LWRmattenovercmd\overrightarrow%
55 \let\LWRmattensundercmd\underline%
56 \LWRmattens%
57 } }
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60 \let\LWRmattencross\LWRmattensnull%
61 \let\LWRmattenovercmd\overline%
62 \let\LWRmattensundercmd\underrightarrow%
63 \LWRmattens%
64 } }
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67 \let\LWRmattencross\LWRmattensnull%
68 \let\LWRmattenovercmd\overline%
69 \let\LWRmattensundercmd\underline%
70 \LWRmattens%
71 } }
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74 \let\LWRmattencross\tilde%
75 \let\LWRmattenovercmd\overrightarrow%
76 \let\LWRmattensundercmd\underrightarrow%
77 \LWRmattens%
78 } }
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81 \let\LWRmattencross\tilde%
82 \let\LWRmattenovercmd\overline%
83 \let\LWRmattensundercmd\underline%
84 \LWRmattens%
85 } }
86 \end{warpMathJax}
```

---

File 291 **lwarp-maybemath.sty**

§ 400      Package **maybemath**

(Emulates or patches code by ANDY BUCKLEY.)

Pkg **maybemath** **maybemath** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ no effect MATHJAX is not able to detect the surrounding text font, so all `maybemath` macros are ignored.

for HTML output:

```
1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}{\let\maybebm\mayberm}}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}
6 \CustomizeMathJax{\let\maybeitrm\mayberm}
7 \CustomizeMathJax{\let\maybeitsubscript\mayberm}
8 \CustomizeMathJax{\let\maybesf\mayberm}
9 \CustomizeMathJax{\let\maybebmsf\mayberm}
10 \end{warpMathJax}
```

---

File 292 **l warp-mcaption.sty**

## § 401 Package **mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

Pkg `mcaption` `mcaption` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*{\margincapalign}{}
4 \newlength{\margincapsep}
```

---

File 293 **l warp-mdframed.sty**

## § 402 Package **mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg `mdframed` `mdframed` is loaded with options forced to `framemethod=none`.

### § 402.1 Limitations

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

**⚠ loading** When used, `l warp` loads `mdframed` in HTML with `framemethod=none`.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `l warp` does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

### § 402.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}%
2 %
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require `Tikz` or `pstricks`:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

### § 402.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 \topsep=\the\topsep\relax%
9 \partopsep=\the\partopsep\relax%
10 \parsep=\the\parsep\relax%
```

```

11 }%
12 % \setlength{\topsep}{#1}%
13 % \topskip\z@%
14 % \partopsep\z@%
15 % \parsep\z@%
16 % \enmbrlistfalse%
17 % \@trivlist%
18 % \labelwidth\z@%
19 % \leftmargin\z@%
20 % \itemindent\z@%
21 \let\@itemlabel\@empty%
22 \def\makelabel##1{##1}%
23 \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*\endmdf@trivlist}{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 % \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument

```

#### § 402.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. \LWR@print@raggedright helps avoid hyphenation.

```

32 \mdfsetup{%
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }

```

#### § 402.5 Color and length HTML conversion

\LWR@mdfprintcolor {⟨mdfcolorkey⟩}

Given the mdframed key, print the color.

```

38 \newcommand*\LWR@mdfprintcolor[1]{%
39 \convertcolorspec[named]{\nameuse{\mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }

```

\LWR@mdfprintlength {⟨mdflengthkey⟩}

Given the mdframed key, print the length.

```

42 \newcommand*\LWR@mdfprintlength[1]{%
43 \LWR@forceminwidth{\nameuse{\mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }

```

## § 402.6 Environment encapsulation

\LWR@mdframedstart Actions before an mdframe starts.

Encapsulate a frame inside a <div> of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{LWR@mdframedstart start}}%
```

Warn if starting a frame inside a <span>:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a <div> and with custom class and custom style. A BlockClass environment is not used because this <div> is created by the mdframed startcode and endcode settings, which do not properly nest the <div> inside the mdframed environment.

```
50 \LWR@htmllagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefined{\LWR@mdthisenv}{mdframed}{}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline

68 \textquotedbl
69 % \LWR@htmldivclass{\LWR@mdthisenv}
```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```
70 \LWR@select@print@hspace%
71 \renewcommand*{\rule}{\LWR@print@rule}
72 \LetLtxMacro{\makebox}{\LWR@print@makebox}

73 \LWR@startpars%
74 \LWR@traceinfo{LWR@mdframedstart done}%
75 }
```

\LWR@mdframedend Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```
76 \newcommand*\LWR@mdframedend{%
77 \LWR@traceinfo{\LWR@mdframedend start}%

```

Close the custom <div>:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{\LWR@mdframedend done}%
82 }
```

## § 402.7 Mdframed environment

```
83 \renewenvironment{mdframed}[1][]{%
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifdefempty{\mdf@firstframetitle}{}{%
89 \let\mdf@frametitlesave\mdf@frametitle%
90 \let\mdf@frametitle\mdf@firstframetitle%
91 }%
92 \ifvmode\nointerlineskip\fi%
93 \ifdefempty{\mdf@frametitle}{}{%
94 \mdfframedtitleenv{\mdf@frametitle}%
95 }%
96 \mdf@frametitle@use%
97 \mdf@trivlist{\mdf@skipabove@length}%
98 \mdf@settings%
99 \mdf@lrbox{\mdf@splitbox@one}%
100 \mdf@startinnercode%
101 }%
102 {%
103 \mdf@ignorelastdescenders%
104 \par%
105 \unskip\ifvmode\nointerlineskip\hrule \height\z@\width\hsize\fi%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserved{%
108 \mdf@footnoteoutput%
109 }%
110 \endmdf@lrbox%
111 \ifdefempty{\mdf@frametitle}{}{%
112 \mdfframedtitleenv{\mdf@frametitle}\mdf@frametitle@use}%
113 \detected@mdf@put@frame%
114 }%
115 \else%
116 \def\mdf@reserved{%
117 }%
118 }
```

```

118 % \endmdf@lrbox%
119 % \ifdefempty{\mdf@frametitle}{}
120 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 % \detected@mdf@put@frame%
122 % \mdf@footnoteoutput%
123 % }%
124 % \fi%
125 % \mdf@reserveda%
126 % \aftergroup\endmdf@trivlist%
127 % \color@endgroup%
128 % \mdf@endcode%
129 }

\mdf@footnoteoutput
130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

## § 402.8 Titles and subtitles

\mdfframedtitleenv {*<title>*}

Place the title inside a `<div>` of class `mdframedtitle`:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdframedtitleenv start}%

```

Open a `<div>` with a custom `class` and `custom style`:

```
137 \begin{BlockClass}[%
```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}
140 ; \LWR@orignewline

```

Convert and print the title rule:

```

141 \ifbool{\mdf@frametitlerule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitlerulewidth}
144 solid
145 \LWR@mdfprintcolor{frametitlerulecolor}
146 ; \LWR@orignewline
147 }{}%

```

Finish the custom style and the opening `<div>` tag:

```
148]{\mdframedtitle}%
```

Print the title inside the `<div>`:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
```

Close the `<div>`:

```
150 \end{BlockClass}%
```

```
151 \LWR@traceinfo{\LWR@mdframedtitleenv end}%
152 }
```

\LWR@mdfsubtitlecommon {*sub—or—subsub*} [*options*] {*title*}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}%
154 {%
155 \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
156 }
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}[%
```

Convert and print the background color:

```
158 background:#
159 \LWR@mdfprintcolor{\#1titlebackgroundcolor}%
160 ; \LWR@orignewline
```

Convert and print the above line:

```
161 \ifbool{mdf@#1titleaboveline}{%
162 border-top:#
163 \LWR@mdfprintlength{\#1titleabovelinewidth}%
164 solid%
165 \LWR@mdfprintcolor{\#1titleabovelinecolor}%
166 ; \LWR@orignewline
167 }{}}%
```

Convert and print the below line:

```
168 \ifbool{mdf@#1titlebelowline}{%
169 border-bottom:#
170 \LWR@mdfprintlength{\#1titlebelowlinewidth}%
171 solid%
172 \LWR@mdfprintcolor{\#1titlebelowlinecolor}%
173 ; \LWR@orignewline
174 }{}}%
```

Finish the custom style and the opening <div> tag:

```
175]{mdframed#1title}%
```

Perform the original subtitle action:

```
176 \IfNoValueTF{#2}%
177 {%
178 \csuse{mdf@#1title}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}%
179 }
```

Close the <div>:

```
179 \end{BlockClass}%
180 \LWR@traceinfo{\LWR@mdframedsubtitlecommon end}%
181 }
```

\LWR@mdfsubtitle {*options*} {*title*}

---

```

182 \newcommand*{\LWR@mdfsubtitle}{%
183 \LWR@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LWR@mdfsubtitle

\LWR@mdfsubsubtitle [\langle options\rangle] {\langle title\rangle}

186 \newcommand*{\LWR@mdfsubsubtitle}{%
187 \LWR@mdfsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

```

### § 402.9 New environments

\LWR@mdthisenv Stores the environment of the frame about to be created:

```
190 \newcommand*{\LWR@mdthisenv}{mdframed}
```

\newmdenv [\langle options\rangle] {\langle env-name\rangle}

Modified from the original to remember the environment.

```

191 \renewrobustcmd*\newmdenv[2][]{%
192 \newenvironment{#2}%
193 {%
194 \mdfsetup{#1}%
195 \renewcommand*{\LWR@mdthisenv}{md#2}%
196 \begin{mdframed}%
197 }%
198 {\end{mdframed}}%
199 }

```

\surroundwithmdframed [\langle options\rangle] {\langle environment\rangle}

Modified from the original to remember the environment.

```

200 \renewrobustcmd*\surroundwithmdframed}[2][]{%
201 \BeforeBeginEnvironment{#2}%
202 \renewcommand*{\LWR@mdthisenv}{md#2}%
203 \begin{mdframed}[#1]}%
204 \AfterEndEnvironment{#2}{\end{mdframed}}%
205 }

```

\mdtheorem [\langle mdframed-options\rangle] {\langle envname\rangle} [\langle numberedlike\rangle] {\langle caption\rangle} [\langle within\rangle]

Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }{%
207 {\ifcsdef{#2}{%
208 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209 {%
210 \IfNoValueTF{#3}{%
211 {\%#3 not given -- number relationship
212 \IfNoValueTF{#5}{%
213 {\%#3+#5 not given
214 \@definecounter{#2}}%
215 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
}
}
}
}
}
}

```

```
216 \newenvironment{#2}[1][]{%
217 \refstepcounter{#2}%
218 \ifstrempty{##1}%
219 {\let\@temptitle\relax}%
220 {%
221 \def\@temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% lwarp
225 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228 \@temptitle}]]}%
229 {\end{mdframed}}%
230 \newenvironment{#2*}[1][]{%
231 \ifstrempty{##1}{\let\@temptitle\relax}{\def\@temptitle{:\ ##1}}%
232 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]}%
233 {\end{mdframed}}%
234 }%
235 {##5 given -- reset counter
236 \definecounter{#2}\newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{\@thmcnter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239 \expandafter\noexpand\csname the#5\endcsname \@thmcntersep%
240 \@thmcnter{#2}}%
241 \newenvironment{#2}[1][]{%
242 \refstepcounter{#2}%
243 \ifstrempty{##1}%
244 {\let\@temptitle\relax}%
245 {%
246 \def\@temptitle{\mdf@theoremseparator%
247 \mdf@theoremspace%
248 \mdf@theoremtitlefont%
249 \LWR@textcurrentfont{##1}}% lwarp
250 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
251 }%
252 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253 \@temptitle}]]}%
254 {\end{mdframed}}%
255 \newenvironment{#2*}[1][]{%
256 \ifstrempty{##1}%
257 {\let\@temptitle\relax}%
258 {%
259 \def\@temptitle{\mdf@theoremseparator%
260 \mdf@theoremspace%
261 \mdf@theoremtitlefont%
262 \LWR@textcurrentfont{##1}}% lwarp
263 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
264 }%
265 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]}%
266 {\end{mdframed}}%
267 }%
268 }%
269 {##3 given -- number relationship
270 \global\@namedef{the#2}{\@nameuse{the#3}}%
```

```

271 \newenvironment{#2}[1][]{%
272 \refstepcounter{#3}%
273 \ifstrempty{##1}%
274 {\let\@temptitle\relax}%
275 {%
276 \def\@temptitle{\mdf@theoremseparator}%
277 \mdf@theoremspace%
278 \mdf@theoremtitlefont%
279 \LWR@textcurrentfont{##1}}% lwarp
280 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname}{##1}}%
281 }
282 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283 \atemptitle}]]}%
284 {\end{mdframed}}%
285 \newenvironment{#2*}[1][]{%
286 \ifstrempty{##1}{\let\@temptitle\relax}{\def\@temptitle{:\ ##1}}%
287 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]}%
288 {\end{mdframed}}%
289 }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarp
292 }%
293 }

```

\newmdtheoremenv [⟨1: mdframed-options⟩] {⟨2: envname⟩} [⟨3: numberedlike⟩] {⟨4: caption⟩} [⟨5: within⟩]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{O{} m o m o }{%
295 \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }{%
296 \newtheorem{#2}{#4}}%
297 {%
298 \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299 \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300 }%
301 \BeforeBeginEnvironment{#2}{%
302 \renewcommand*\LWR@mdthisenv{md#2}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

#### File 294 **lwarp-mdwmath.sty**

§ 403 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

Pkg mdwmath mdwmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LWRmdwmathsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar\LWRmdwmathsqrt\LWRmdwmathsqrt}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin\&}}
6 \CustomizeMathJax{\def\bitor{\mathbin\mid}}
7 \CustomizeMathJax{\def\dblor{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dbland{\mathbin{\mathrel\bitand\mathrel\bitand}}}
9 \end{warpMathJax}
```

---

**File 295 l warp-media9.sty****§ 404 Package media9**

Pkg media9 media9 is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addresource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

**⚠ & in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. & is used in the flash variables fields, which are split with `xparse \SplitList`, which does not seem to work with a catcode 12 divider token, so & is not converted to catcode 12, and will not work in a URL with `media9`. Using & in a URL in a `flashvars` field may also cause parsing problems with print output, as well.

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{media9}[2019/02/21]`

```
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
```

`\addmediapath {<path>}`

Supported.

```
5 \newcommand*{\LWR@medianine@path}{}%
6
7 \newcommand*{\addmediapath}[1]{\appto{\LWR@medianine@path}{#1}}%
```

The options and poster text are reused in several places.

```
8 \newcommand*{\LWR@medianine@postertext}{}%
9 \newcommand*{\LWR@medianine@options}{}%
```

Each addresource can generate a multimedia object.

```
10 \define@key{\LWR@medianine}{addresource}{%
11 \expandafter\lwr@multimedia\expandafter[\lwr@medianine@options]%
12 {\lwr@medianine@postertext}%
13 {#1}%
14 }
```

Each flashvars source can generate a multimedia object.

```
15 \newcommand*{\lwr@medianine@flashvarsb}[1]{%
16 \IfBeginWith{#1}{source=}{%
17 \StrGobbleLeft{#1}{7}[\lwr@tempone]%
18 \expandafter\lwr@multimedia\expandafter[\lwr@medianine@options]%
19 {\lwr@medianine@postertext}%
20 {\lwr@tempone}%
21 }{}%
22 \IfBeginWith{#1}{src=}{%
23 \StrGobbleLeft{#1}{4}[\lwr@tempone]%
24 \expandafter\lwr@multimedia\expandafter[\lwr@medianine@options]%
25 {\lwr@medianine@postertext}%
26 {\lwr@tempone}%
27 }{}%
28 }
29
30 \NewDocumentCommand{\lwr@medianine@flashvars}{ >{\SplitList{&}} m }{%
31 \ProcessList {#1}{\lwr@medianine@flashvarsb}%
32 }
33
```

```

34 \define@key{LWR@mediananine}{flashvars}{%
35 \LWR@mediananine@flashvars{\#1}%
36 }

\includemedia [<options>] {<poster text>} {<file or url>}
37 \newcommand*{\LWR@includemediab}[3][]{%
38 \let\input@path\LWR@mediananine@path%
39 \renewcommand*{\LWR@mediananine@options}{\#1}%
40 \renewcommand*{\LWR@mediananine@postertext}{\#2}%
41 \setkeys*{\LWR@mediananine}{\#1}%
42 \IfBeginWith{\#3}{http}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
43 \IfBeginWith{\#3}{HTTP}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
44 \IfBeginWith{\#3}{ftp}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
45 \IfBeginWith{\#3}{FTP}{\LWR@multimedia[\#1]{\#2}{\#3}}{%
46 }}}{%
47 }%
48 }
49
50 \newrobustcmd*{\includemedia}{%
51 \begingroup%
52 \LWR@linkmediacatcodes%
53 \LWR@includemediab%
54 }

\mediabutton [<options>] {<text>}
Ignored.
55 \newcommand*{\mediabutton}[2][]{}


```

---

### File 296 **lwarf-memhfixc.sty**

§ 405 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

### File 297 **lwarf-menukeys.sty**

§ 406 Package **menukeys**

(Emulates or patches code by TOBIAS WEH.)

Pkg menukeys menukeys is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `\teximage` whose `alt` text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \xpatchcmd{\tw@define@menu@macro@}
3 {\\nameuse{tw@style@#4@pre}}
4 {%
5 \\begin{teximage}*[\\detokenize{##2}]%
6 \\nameuse{tw@style@#4@pre}%
7 }
8 {}
9 {\\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
10
11 \xpatchcmd{\tw@define@menu@macro@}
12 {\\nameuse{tw@style@#4@post}}
13 {%
14 \\nameuse{tw@style@#4@post}%
15 \\end{teximage}%
16 }
17 {}
18 {\\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \\renewmacro{\\menu}[>]{menus}
20 \\renewmacro{\\directory}[/]{paths}
21 \\renewmacro{\\keys}[+]{roundedkeys}

```

### File 298 **lwarf-metalogo.sty**

§ 407 Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg **metalogo** **metalogo** is used in print mode, and emulated in **HTML**.

**for HTML output:** 1 \\LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2 \\newcommand*{\\LWR@HTML@setlogokern}[2]{}
3 \\newcommand*{\\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \\newcommand*{\\LWR@HTML@setLaTeXa}[1]{}
5 \\newcommand*{\\LWR@HTML@setLaTeXee}[1]{}
6 \\newcommand*{\\LWR@HTML@seteverylogo}[1]{}
7 \\newcommand*{\\LWR@HTML@everylogo}[1]{}
8
9 \\LWR@formatted{setlogokern}
10 \\LWR@formatted{setlogodrop}
11 \\LWR@formatted{setLaTeXa}
12 \\LWR@formatted{setLaTeXee}
13 \\LWR@formatted{seteverylogo}
14 \\LWR@formatted{everylogo}

```

---

**File 299 l warp-metalogox.sty****§ 408 Package metalogox**

(Emulates or patches code by BRIAN DUNN.)

Pkg metalogox metalogox is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```
2 \AtBeginDocument{
3 \let\LWR@metalogox@currentformatting\LWR@formatting
4 \renewcommand*\LWR@formatting{\print}
5 \autoadjustlogos*
6 \let\LWR@formatting\LWR@metalogox@currentformatting
7 }
```

---

**File 300 l warp-mhchem.sty****§ 409 Package mhchem**

(Emulates or patches code by MARTIN HENSEL.)

Pkg mhchem mhchem is patched for use by l warp.

without MATHJAX Without MATHJAX, mhchem expressions are converted to SVG math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

MATHJAX with mhchem extension For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

$\ce{C6H5-CHO}$

To force the use of SVG math for an expression which does not work with MATHJAX, place the expression between \displaymathother and \displaymathnormal:

```
\displaymathother
\[\ce{ ... } \] . . . $ \ce{ ... } $
\displaymathnormal
```

not inside math

If *not* used inside a math expression, l warp converts standalone mhchem expressions into SVG math images.

⚠ nested math When producing HTML output without the MATHJAX mhchem extension, l warp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|                                             |       |
|---------------------------------------------|-------|
| $\text{NaOH(aq, \infty)}$                   | % old |
| $\text{NaOH(aq, } \infty)$                  | % new |
| $\text{Fe(CN)}_{\frac{6}{2}}$               | % old |
| $\text{Fe(CN)}_{\frac{6}{2}}$               | % new |
| $\text{NO}_x$                               | % old |
| $\text{NO}_x$                               | % new |
| $\text{NO}_{\{x\}}$                         | % old |
| $\text{NO}_{\{x\}}$                         | % new |
| $\text{cis-}[\text{PtCl}_2(\text{NH}_3)_2]$ | % old |
| $\text{cis-}[\text{PtCl}_2(\text{NH}_3)_2]$ | % new |

**for HTML output:** 1 \LWR@ProvidesPackagePass{mhchem}[2018/06/22]

The original definition of \ce{:

## 2 \LetLtxMacro\LWR@mhchem@origce\ce

The new definition, called from the new \ce after math shift is set. The starred lateximage uses a hashed filename for the SVG image. The alt tag is set to the mhchem expression.

```

3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \ifbool{\LWR@xfakebold}{%
6 \def\LWR@tempone{Y}%
7 \def\LWR@tempone{N}%
8 \begin{lateximage}*[\textbackslash ce\{\LWR@HTMLsanitize{\#1}\}]*%
9 [%
10 FM\textbackslash LWR@f@family%
11 SR\textbackslash LWR@f@series%
12 SH\textbackslash LWR@f@shape%
13 SHC\textbackslash LWR@f@shapecaps%
14 CL\textbackslash LWR@tempcolor%
15 FB\textbackslash LWR@tempone% xfakebold
16]%
17 \LWR@setcurrentfont%
18 \LWR@mhchem@origce{\#1}%
19 \end{lateximage}%
20 \endgroup%
21 \addtocounter{\LWR@mhchem@cedepth}{-1}%
22 }

```

Only set math shift if outer depth:

```
23 \newcounter{LWR@mhchem@cedepth}
24 \setcounter{LWR@mhchem@cedepth}{0}
```

The new \ce. Sets math shift then continues.

```

25 \renewcommand{\ce}{%
26 \begingroup%
27 \ifnumequal{\value{LWR@mhchem@cedepth}}{0}{%
28 \catcode`\$=3% math shift
29 }{%
30 \addtocounter{LWR@mhchem@cedepth}{1}%
31 \LWR@mhchem@HTML@ce%
32 }

```

The original definition of \cesplit:

```
33 \LetLtxMacro{\LWR@mhchem@origcesplit}{\cesplit}
```

The new definition, called from the new \cesplit after math shift is set. The starred *lateximage* uses a hashed filename for the svg image. The alt tag is set to the *mhchem* expression.

```

34 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]{%
35 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
36 \ifboolexpr{LWR@xfakebold}{%
37 {\def{\LWR@tempone{Y}}{%
38 {\def{\LWR@tempone{N}}{%
39 {\begin{latextag}{\textbackslash cesplit{\LWR@HTMLsanitize{#2}}}{%
40 [\%
41 FM{\LWR@f@family}%
42 SR{\LWR@f@series}%
43 SH{\LWR@f@shape}%
44 SHC{\LWR@f@shapecaps}%
45 CL{\LWR@tempcolor}%
46 FB{\LWR@tempone{xfakebold}}%
47]%
48 }%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{#1}{#2}%
51 }%
52 }%
53 }

```

Only set math shift if outer depth:

```

54 \newcounter{LWR@mhchem@cesplitdepth}
55 \setcounter{LWR@mhchem@cesplitdepth}{0}

```

The new \cesplit. Sets math shift then continues.

```

56 \renewcommand{\cesplit}{%
57 \begingroup%
58 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
59 \catcode`\$=3% math shift
60 }{%
61 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
62 \LWR@mhchem@HTML@cesplit%
63 }

```

Resore originals inside a `lateximage`:

```
64 \appto\LWR@restoreorigformatting{%
65 \LetLtxMacro\ce\LWR@mhchem@origce%
66 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
67 }
68
69 \begin{warpMathJax}
70 \CustomizeMathJax{\require{mhchem}}
71 \end{warpMathJax}
```

---

File 301 **l warp-microtype.sty**

§ 410 Package **microtype**

(*Emulates or patches code by R SCHLICHT.*)

Pkg `microtype` **microtype** is pre-loaded by **l warp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **l warp-microtype**:

```
1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m} {}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m} {}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m} {}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m} {}
6 \DeclareDocumentCommand{\SetExpansion}{o m m} {}
7 \DeclareDocumentCommand{\SetTracking}{o m m} {}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m} {}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m} {}
10 \DeclareDocumentCommand{\DisableLigatures}{o m} {}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m} {}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m} {}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m} {}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m} {}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m} {}
16 \DeclareDocumentCommand{\microtypsetup}{m} {}
17 \DeclareDocumentCommand{\microtypecontext}{m} {}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m} {#2}
19 \@ifpackageloaded{letterspace}{\let\MT@textls\relax}{}
20 \DeclareDocumentCommand{\lsstyle}{}{}
21 \DeclareDocumentCommand{\textls}{o +m} {}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1{\gobbletwo}
25 \def\DeclareMicrotypeVariants#1{\gobble}
26 \onlypreamble\DeclareMicrotypeSet
27 \onlypreamble\UseMicrotypeSet
28 \onlypreamble\DeclareMicrotypeSetDefault
29 \onlypreamble\DisableLigatures
30 \onlypreamble\DeclareMicrotypeVariants
```

31 \onlypreamble\DeclareMicrotypeBabelHook

File 302 **lwarf-midfloat.sty**

§ 411 Package **midfloat**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg midfloat midfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```
2 \newenvironment{strip}[1][]{\{}{\}}
3 \newskip\stripsep
```

## File 303 **l warp-midpage.sty**

§ 412 Package midpage

Pkg midpage midpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4 \LWR@print@mbox{margin-top:6ex} ; \LWR@print@mbox{margin-bottom:6ex}%
5]{midpage}}
6 {\end{BlockClass}}
```

File 304 **lwarp-minibox.sty**

§ 413 Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg minibox minibox is patched for use by lwrap.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```
2 \ExplSyntaxOn
3 \newcommand{\LWR@HTML@minibox}[2][]{%
4 \LWR@stoppars%
5 \group_begin:
```

---

```

6 \keys_set:nn {minibox} {#1}
7 \bool_if:NNT \l_minibox_frame_bool
8 {
9 \setlength\fboxrule{\l_minibox_rule_dim}
10 \setlength\fboxsep{\l_minibox_pad_dim}
11 \fboxBlock{%
12 \begin{tabular}[\l_minibox_tabular_valign_tl]%
13 {\l_minibox_tabular_preamble_tl}%
14 {#2}%
15 \end{tabular}%
16 }%
17 }
18 {
19 \begin{BlockClass}[display:inline-block]{minibox}%
20 \begin{tabular}[\l_minibox_tabular_valign_tl]%
21 {\l_minibox_tabular_preamble_tl}%
22 {#2}%
23 \end{tabular}%
24 \end{BlockClass}%
25 }
26 \group_end:
27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

### File 305 l warp-minitoc.sty

#### § 414 Package **minitoc**

Pkg minitoc minitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

2 \usepackage{mtcoff}

---

### File 306 l warp-minited.sty

#### § 415 Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg minted minted is patched for use by l warp.

**⚠ limitations** mathttescape and highlightlines don't work. Line numbers on the right will not be aligned. Due to pdftotext, extra spaces may appear in broken lines if other formatting is included.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minted}[2017/07/19]

```

2 \xpatchcmd{\minted}
3 {\setkeys{minted@opt@cmd}{#1}}
4 {%
5 \setkeys{minted@opt@cmd}{%
6 #1,%
7 mathescape=false,breaklines,texcomments=false,highlightlines={}}%
8 }%
9 {}
10 {}%
11 {\LWR@patcherror{minted}{minted}}
12
13 \xpatchcmd{\mintinline}
14 {\setkeys{minted@opt@cmd}{#1}}
15 {\setkeys{minted@opt@cmd}{%
16 #1,%
17 mathescape=false,breaklines,texcomments=false,highlightlines={}}%
18 }%
19 {}
20 {}%
21 {\LWR@patcherror{minted}{mintinline}}
22
23 \xpatchcmd{\mint}
24 {\setkeys{minted@opt@cmd}{#1}}
25 {%
26 \setkeys{minted@opt@cmd}{%
27 #1,%
28 mathescape=false,breaklines,texcomments=false,highlightlines={}}%
29 }%
30 {}
31 {}%
32 {\LWR@patcherror{minted}{mint}}
33
34 \xpatchcmd{\inputminted}
35 {\setkeys{minted@opt@cmd}{#1}}
36 {\setkeys{minted@opt@cmd}{%
37 #1,%
38 mathescape=false,breaklines,texcomments=false,highlightlines={}}%
39 }%
40 {}
41 {}%
42 {\LWR@patcherror{minted}{inputminted}}

```

### File 307 l warp-mismath.sty

#### § 416 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg **mismath** **mismath** is patched for SVG math, and emulated for MATHJAX.

⚠ **MATHJAX** \enumeration, \inumeration, \jnumeration, and \pinumeration are ignored for MATHJAX, except that

`\itpi` is made available as a clone of `\pi`.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.5. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mismath}[2019/12/27]

For MATHJAX, used in the HTML comment before the environment.

```
2 \ifbool{mathjax}{
3 \RenewEnviron{mathcols}{%
4 \preto\BODY{\begin{aligned}\displaystyle}
5 \appto\BODY{\end{aligned}}
6 \expandafter\(\BODY\
7 }
8 }% mathjax
```

For SVG math. The `lateximage` restores the original definition of the `math` environment.

```
9 {%
10 \renewenvironment{mathcols}{%
11 \begin{lateximage}
12 \begin{math}
13 \begin{aligned}\displaystyle
14 }%
15 \end{aligned}%
16 \end{math}
17 \end{lateximage}
18 }
19 }% svg
20
21 \renewcommand{\changecol}{%
22 \end{aligned} \quad
23 \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}}
```



```

89 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
90 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
91 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
92 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
93 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
94 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
95 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
96 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
97 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
98 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
99 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
100 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
101 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
102 \CustomizeMathJax{\newcommand{\lbar}{\overline{}}}
103 \CustomizeMathJax{\newcommand{\hbar}[1]{\overline{\vphantom{h}\#1}}}
104 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{=}{\mathrm{def}}}}
105 \CustomizeMathJax{\newcommand{\unbr}{\underbrace{}}}
106 \CustomizeMathJax{\newcommand{\iif}{\text{if and only if }}}
107 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
108 \CustomizeMathJax{\newcommand{\then}{\rightarrow\limits}}
109 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
110 \CustomizeMathJax{\newcommand{\paren}[1]{\left(\right)}}
111 \CustomizeMathJax{\newcommand{\pow}[2]{\left(\right)^{!#2}}}
112 \CustomizeMathJax{\newcommand{\abs}[1]{\left|\right.}}
113 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\left.\right.}{\left.\right.}}}
114 \CustomizeMathJax{\newenvironment{system}[1][l]%
115 {\left.\begin{array}{@{.15em}#1@{}}\right.}
116 {\end{array}\right.}
117 }
118 \CustomizeMathJax{\newenvironment{spmatrix}%
119 {\left.\begin{smallmatrix} \end{smallmatrix}\right.}
120 {\end{smallmatrix}\right.}
121 }
122 \CustomizeMathJax{\newenvironment{mathcols}%
123 {\left.\begin{aligned} \end{aligned}\right.}
124 {\begin{aligned}\displaystyle}
125 {\end{aligned}\right.}
126 }
127 \CustomizeMathJax{\newcommand{\changecol}{\end{aligned}\quad\begin{aligned}}}
128 \CustomizeMathJax{\newcommand{\boldvectcommand}{\mathbf{#1}}}
129 \CustomizeMathJax{\let\itpi\pi}
130 \CustomizeMathJax{\begin{aligned}\displaystyle}
131 \CustomizeMathJax{\end{aligned}\right.}
132 }
133 \CustomizeMathJax{\newcommand{\boldvectcommand}{\mathbf{#1}}}

```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{%
135 \ifdef{\itpi}{%
136 \CustomizeMathJax{\let\itpi\pi}
137 }{%
138 \ifdefstring{\boldvectcommand}{\mathbf{#1}}{%
139 \CustomizeMathJax{\newcommand{\boldvectcommand}{\mathbf{#1}}}
140 }{%

```

---

```

141 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
142 }
143 \ifbool{arrowvect}{%
144 \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
145 }{%
146 \CustomizeMathJax{\newcommand{\vect}[1]{\boldsymbol{\vectcommand{#1}}}}
147 }
148 \ifdefstring{\probastyle}{\mathbb}{%
149 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}}
150 }{%
151 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}}
152 }
153 \ifdefstring{\mathset}{\mathbb}{%
154 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}}
155 }{%
156 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}}
157 }
158 }
159 \end{warpMathJax}

```

---

File 308 **lwarf-mleftright.sty**

§ 417 Package **mleftright**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg **mleftright** **mleftright** is used as-is, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}

```

---

File 309 **lwarf-morefloats.sty**

§ 418 Package **morefloats**

Pkg **morefloats** **morefloats** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

---

**File 310 l warp-moreverb.sty**

§ 419      Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg moreverb moreverb is supported with some patches.

```
1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatimtab}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatimtab}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro{\LWRMV@orig@verbatimtab@input}{\verbatimtab@input}
12
13 \renewcommand{\@verbatimtab@input}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatimtab@input[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro{\LWRMV@listing@input}{\listing@input}
38
39 \renewcommand{\@listing@input}[3][]{%
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
```

```
42 \LWRMV@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }
```

---

File 311 **l warp-movie15.sty**

§ 420 Package **movie15**

Pkg movie15 **movie15** is emualted.

The packages **multimedia**, **movie15**, and **media9** are supported.

**HTML5** `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

**HTML5** `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each **HTML** multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

**media9** `\addmediopath` is supported. It is assumed that the same path structure will exist for the **HTML** document.

**HTML5** media controls are always specified for each `<audio>` and `<video>` object.

**media9** slideshows are not supported.

\hyperlink{movie}, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

**for HTML output:** 1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]

```
2 \LWR@origRequirePackage{l warp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\{\LWR@moviefifteen@text}{}%
7
8 \define@key{LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\{\LWR@includemovieb}[4][]{%
11 \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12 \setkeys*{LWR@moviefifteen}{#1}%
13 \LWR@multimediacat[#1, width=#2, height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\{\includemovie}{%
17 \begingroup%
18 \LWR@linkmediacatcodes%
19 \LWR@includemovieb%
20 }
21
22
23 \newcommand*\{\movieref}[3]{}%
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlink{movie}}[3]{}%
```

---

File 312 **l warp-mparhack.sty**

§ 421 Package **mparhack**

Pkg mparhack mparhack is ignored.

**for HTML output:** Discard all options for l warp-mparhack:

1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

---

**File 313 l warp-multibib.sty****§ 422 Package multibib**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg multibib multibib is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

```
2 \xpatchcmd{\newcites}
3 {{\@suffix}}
4 {{\@suffix_html}}
5 {}
6 {\LWR@patcherror{multibib}{newcites}}
```

---

**File 314 l warp-multicap.sty****§ 423 Package multicap**

Pkg multicap multicap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

```
2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}
```

---

**File 315 l warp-multicol.sty****§ 424 Package multicol**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg multicol multicol is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicol}[2018/12/27]

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicols heading is placed inside a <div> of class multcolsheading.

The content is placed inside a <div> of class `multicols`.

```
Env multicols * {<numcols>} [<heading>]
```

```
2 \NewDocumentEnvironment{multicols}{s m o}
```

HTML <div> class to contain everything:

```
3 {
4 \LWR@forcenewpage
5 \BlockClass{multicols}
```

Optional HTML <div> class for the heading:

```
6 \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%
```

Change `\ linewidth` to compensate for expected size:

```
7 \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8 \booltrue{\LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}{}%
12 \newcommand*{\RLmulticolcolumns}{}%
13 \newcommand*{\LRmulticolcolumns}{}%
14
15 \newlength{\premulticols}%
16 \newlength{\postmulticols}%
17 \newlength{\multicolsep}%
18 \newlength{\multicolbaselineskip}%
19 \newlength{\multicoltolerance}%
20 \newlength{\multicolpretolerance}%
21 \newcommand*{\columnseprulecolor}{\normalcolor}%
22 \newcounter{columnbadness}%
23 \newcounter{finalcolumnbadness}%
24 \newcounter{collectmore}%
25 \newcounter{unbalance}%
26 \newlength{\multicolovershoot}%
27 \newlength{\multicolundershoot}%

28 \NewDocumentCommand{\docolaction}{s o m m}{%
29 \IfValueTF{#2}{#2}{#3}{%
30 }
```

---

**File 316 l warp-multicolrule.sty****§ 425 Package multicolrule**

Pkg multicolrule multicolrule is ignored.

**for HTML output:**

```
1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*\SetMCRule[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

---

**File 317 l warp-multimedia.sty****§ 426 Package multimedia**

Pkg multimedia multimedia is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

`HTML5 <audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

`HTML5 <embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by `HTML5`.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each `HTML` multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediopath` is supported. It is assumed that the same path structure will exist for the `HTML` document.

`HTML5` media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]

2 \LWR@origRequirePackage{lwarf-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][]{}
8
9 \newcommand{\hyperlinksound}[3][]{}
10
11 \newcommand{\hyperlinkmute}{}
```

### File 318 **lwarf-multiobjective.sty**

## § 427 Package **multiobjective**

(Emulates or patches code by LUIS MARTÍ.)

Pkg multiobjective multiobjective is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\mathord{\mathrm{prec}}}}
4 \CustomizeMathJax{\newcommand{\negdom}{\mathord{\mathrm{not}\mathord{\mathrm{prec}}}}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\mathord{\mathrm{preccurlyeq}}}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\mathord{\mathrm{not}\mathord{\mathrm{preccurlyeq}}}}}

7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\mathrm{prec}}\mathrel{!}\mathrel{!}\mathord{\mathrm{prec}}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\mathrm{not}\mathord{\mathrm{prec}}}\mathrel{!}\mathrel{!}\mathord{\mathrm{prec}}}}
9 \CustomizeMathJax{\newcommand{\multepsilon}{\mathord{\mathrm{preccurlyeq}}_{\mathrm{epsilon}\mathord{\mathrm{cdot}}}}}
10 \CustomizeMathJax{\newcommand{\addiepsilon}{\mathord{\mathrm{preccurlyeq}}_{\mathrm{epsilon}\mathord{+}}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13 \mathchoice%
14 {\displaystyle\boldsymbol{#1}}%
15 {\textstyle\boldsymbol{#1}}%
16 {\scriptstyle\boldsymbol{#1}}%
17 {\scriptscriptstyle\boldsymbol{#1}}%
18 }%
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
```

---

```

21 \mathchoice%
22 {{\displaystyle\mathcal{#1}}}%
23 {{\textstyle\mathcal{#1}}}%
24 {{\scriptstyle\mathcal{#1}}}%
25 {{\scriptscriptstyle\mathcal{#1}}}%
26 }
27 \CustomizeMathJax{\def\argmax{\mathop{{\mathsf{arg}}}\nolimits,\max}}
28 \CustomizeMathJax{\def\argmin{\mathop{{\mathsf{arg}}}\nolimits,\min}
29 }
30 \end{warpMathJax}

```

---

File 319 **lwarp-multirow.sty**

§ 428 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg **multirow** **multirow** is emulated during HTML output, and used as-is while inside a `\textrimage`.

- Note that recent versions of **multirow** include a new optional `vposn` argument.

- multirow cells**
- For **multirow**, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

. . . & \multirow{2}{.5in}{text} & . . .
. . . & \mrowcell & . . .

```

- colored cells**
- The **multirow** documentation regarding colored cells recommends using a negative number of rows. This will not work with **lwarp**, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

- See section 428.2 for `\multicolumnrow`.

⚠ **with `\multicolumn`** **lwarp** does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```

. . . & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & . . .
. . . & \mcolrowcell & \mcolrowcell & . . .
. . . & \mcolrowcell & \mcolrowcell & . . .

```

- ⚠ **MathJax**
- **MATHJAX** does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

In a `\teximage`, the print versions are restored.

See section [75.24](#) for the print-mode versions.

**for HTML output:** Remove the placeholder macro which was used if `multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2021/01/29]
```

`\LWR@multirowborder` Set to `left` or `right` to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}%
```

### § 428.1 Multirow

```
\LWR@multirow@par \par inside a \multirow.
4 \newcommand*{\LWR@multirow@par}{\LWR@htmltag{br /}\LWR@origpar}%
\multirow [\langle vpos \rangle] [\langle numrows \rangle] [\langle bigstruts \rangle] [\langle width \rangle] [\langle fixup \rangle] [\langle text \rangle]
5 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
6 {%
7 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%
8 \booltrue{LWR@usedmultirow}%
9 \LWR@maybenewtablerow%
10 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
11 \LWR@htmltag{td rowspan=\textquotedbl#2\textquotedbl\ %}
```

A class adds the column spec and the rule:

```
12 class=\textquotedbl{}td%
```

Append this column's spec:

```
13 \LWR@getexpparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

If this column has a `cmidrule`, add “rule” to the end of the `HTML` class tag. Also add the vertical bar class.

```
14 \LWR@addcmidruletrim%
15 \LWR@addleftmostbartag%
16 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
17 \textquotedbl%
```

```
18 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
19 \ifstreq{\#1}{c}{\LWR@tdaddstyle{\LWR@print@mbox{vertical-align:middle}}}{}
20 \ifstreq{\#1}{b}{\LWR@tdaddstyle{\LWR@print@mbox{vertical-align:bottom}}}{}
21 \ifstreq{\#1}{t}{\LWR@tdaddstyle{\LWR@print@mbox{vertical-align:top}}}{}
```

The left/right border, if given:

```
22 \ifdefvoid{\LWR@multirowborder}{}
23 \LWR@tdaddstyle%
24 \LWR@print@mbox{border-\LWR@multirowborder:} 2px dotted black ; %
25 \LWR@print@mbox{padding-\LWR@multirowborder:} 2px%
26 }
```

Additional style elements:

```
27 \LWR@addcmidrulewidth%
28 \LWR@addcdashline%
29 \LWR@addtabularrulecolors%
30 \LWR@tdendstyles%
31 }
```

The column's < spec:

```
32 \LWR@getexparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine \\ to generate a new line. If a nested tabular occurs, \\ is redefined to \LWR@tabularendofline at the start of the tabular, then \LWR@endofline before again printing any \multirow contents inside the nested tabular.

\par is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```
33 \begingroup%
34 \LetLtxMacro{\\\}{\LWR@endofline}%
35 \let\par\LWR@multirow@par%
36 #6%
37 \endgroup%
38 \LWR@stoppars%
39 \boolfalse{\LWR@intabularmetadata}%
40 \renewcommand{\LWR@multirowborder}{}
41 \LWR@traceinfo{*** LWR@HTML@multirow done}%
42 }%
43
44 \LWR@formatted{multirow}
```

## § 428.2 Combined multicolumn and multirow

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:halign \rangle} [\langle 3:vpos \rangle] {\langle 4:numrows \rangle} [\langle 5:bigstruts \rangle] {\langle 6:width \rangle} [\langle 7:fixup \rangle] {\langle 8:text \rangle}
```

\@ifpackageLoaded{multirow} determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

\AtBeginDocument because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```
45 \AtBeginDocument{%
46
47 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
48 \booltrue{\LWR@usedmultirow}}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
49 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.

```
50 \LetLtxMacro{\\"{\LWR@endofline}}%
51 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#8}%
52 \LetLtxMacro{\\"{\LWR@tabularendofline}}%
```

Move to the next LATEX column:

```
53 \defaddtocounter{\LWR@tableLaTeXcolindex}{#1}%
54 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
55 \booltrue{\LWR@skipatbang}%
56 }
57
58 \LWR@expandableformatted{multicolumnrow}
59
60 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
61 \begin{warpMathJax}
62 % \multirow[vpos]{num}[bigstruts][width][vmove]{text}
63 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{\#2}}
64 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
65 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
66 %
67 \CustomizeMathJax{\newcommand{\mrowcell}{}}
```

```
68 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
```

```
69 \CustomizeMathJax{\newcommand{\STneed}[1]{}}
```

```
70 \end{warpMathJax}
```

---

**File 320 l warp-multitoc.sty****§ 429 Package multitoc**

Pkg multitoc multitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
```

```
3 \newcommand{\multicolumnlot}{2}
```

```
4 \newcommand{\multicolumnlof}{2}
```

```
5 \newcommand*{\immediateaddtocontents}[2]{}
6
```

---

**File 321 l warp-musicography.sty****§ 430 Package musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg musicography musicography is patched for use by l warp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.

 Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:** 1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

```
2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
```

```
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*[#1/#2][#1#2]*%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[{C#1}]*%
45 \meterC[]\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{}{%
52 \begin{lateximage}*[{C}]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{}{%
60 \begin{lateximage}*[{C}]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{%
68 \begin{lateximage}*[{C3/2}]*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
```

```
72
73 \LWR@formatted{meterCThreeTwo}
74
75 \NewDocumentCommand{\LWR@HTML@meterO}{ }{\HTMLunicode{25EF}}
76
77 \LWR@formatted{meterO}
78
79 \newcommand{\LWR@null@noFig}[1][]{ }%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{ %
82 \begin{lateximage}*[%
83 \% ALT text for copy/paste
84 \LetLtxMacro{\noFig}{\LWR@null@noFig}
85 \LetLtxMacro{\musSharp}{\LWR@HTML@musSharp}
86 \LetLtxMacro{\musDoubleSharp}{\LWR@HTML@musDoubleSharp}
87 \LetLtxMacro{\musFlat}{\LWR@HTML@musFlat}
88 \LetLtxMacro{\musDoubleFlat}{\LWR@HTML@musDoubleFlat}
89 \LetLtxMacro{\musNatural}{\LWR@HTML@musNatural}
90 \#1 \% braces here because \noFig uses []
91]}%
92]*%
93 \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat}{ }{\HTMLunicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat}{ }{\HTMLunicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp}{ }{\HTMLunicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{ }{\HTMLunicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural}{ }{\HTMLunicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
110
111 \NewDocumentCommand{\LWR@HTML@musWhole}{ }{\HTMLunicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf}{ }{\HTMLunicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter}{ }{\HTMLunicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth}{ }{\HTMLunicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth}{ }{\HTMLunicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond}{ }{\HTMLunicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth}{ }{\HTMLunicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
```

---

```

127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
128 {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
130 {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
132 {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
134 {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
136 {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
138 {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
140 {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

---

### File 322 **l warp-mwe.sty**

#### § 431 Package **mwe**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg mwe mwe is used as-is, but a warning is issued to copy the images to the local directory.

for HTML output: 1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]

```

2 \AtEndDocument{%
3 \PackageWarningNoLine{l warp}{%
4 For package mwe, copy any mwe images to be used for\MessageBreak
5 HTML, such as PNG or JPG, to the document's base\MessageBreak
6 directory. Neither a subdirectory nor the mwe\MessageBreak
7 directory will work, due to the TeX file search\MessageBreak
8 algorithm%
9 }%
10 }%

```

---

### File 323 **l warp-nameauth.sty**

#### § 432 Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

Pkg nameauth nameauth is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

lwarp formatting is inserted in the following.

```
2 \renewcommand*\@nameauth@Hook[1]
3 {%
4 \if@nameauth@Lock
5 \@nameauth@InHooktrue%
6 \protected@edef\test{\#1}%
7 \expandafter\@nameauth@TestDot\expandafter{\test}%
8 \if@nameauth@InAKA
9 \if@nameauth@AlwaysFormat
10 \@nameauth@FirstFormattrue%
11 \else
12 \unless\if@nameauth@AKAFormat
13 \@nameauth@FirstFormatfalse\fi
14 \fi
15 \if@nameauth@MainFormat
16 \if@nameauth@FirstFormat
17 \bgroup\NamesFormat{%
18 \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
19 }\egroup%
20 \else
21 \bgroup\MainNameHook{%
22 \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
23 }\egroup%
24 \fi
25 \else
26 \if@nameauth@FirstFormat
27 \bgroup\FrontNamesFormat{%
28 \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
29 }\egroup%
30 \else
31 \bgroup\FrontNameHook{%
32 \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
33 }\egroup%
34 \fi
35 \fi
36 \else
37 \if@nameauth@AlwaysFormat
38 \@nameauth@FirstFormattrue%
39 \fi
40 \if@nameauth@MainFormat
41 \if@nameauth@FirstFormat
42 \bgroup\NamesFormat{%
43 \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
44 }\egroup%
45 \else
46 \bgroup\MainNameHook{%
47 \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
48 }\egroup%
49 \fi
50 \else
51 \if@nameauth@FirstFormat
52 \bgroup\FrontNamesFormat{%
```

---

```

53 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
54 }\egroup%
55 \else
56 \bgroup\FrontNameHook{%
57 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% l warp
58 }\egroup%
59 \fi
60 \fi
61 \fi
62 \nameauth@FirstFormatfalse%
63 \nameauth@InHookfalse%
64 \fi
65 }

```

---

File 324 **l warp-nameref.sty**

§ 433 Package **nameref**

Pkg nameref nameref is emulated by l warp.

**for HTML output:** Discard all options for l warp-nameref:

```

1 \PackageInfo{l warp}{%
2 Using the l warp HTML version of package 'nameref', \MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch l warp's version of 'nameref').)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

---

File 325 **l warp-natbib.sty**

§ 434 Package **natbib**

(Emulates or patches code by PATRICK W. DALY.)

Pkg natbib natbib is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{$<$}
```

To patch \NAT@open and \NAT@close

```
3 \newcommand{\LWRNB@patchnatbibopenclose}{
```

---

```

4 \ifdefstreq{\NAT@open}{\LWRNB@NAT@open}
5 {
6 \renewcommand{\NAT@open}{\textless}
7 \renewcommand{\NAT@close}{\textgreater}
8 }()
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }

```

Synchronize the autopage labels:

```

17 \xpretocmd{\NAT@reset@parser}{%
18 {\LWR@newautopagelabel{page}}%
19 {}%
20 {\LWR@patcherror{natbib}{NAT@reset@parser}}}

```

---

### File 326 **lwarp-nccfancyhdr.sty**

#### § 435 Package **nccfancyhdr**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfancyhdr nccfancyhdr is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```

2 \newcommand*\headrulewidth{0pt}
3 \newcommand*\footrulewidth{0pt}
4 \newcommand{\headstrutheight}{0pt}
5 \newcommand{\footstrutheight}{0pt}
6 \newcommand*\headrule[1]{\hrule height #1}
7 \newcommand*\footrule[1]{\hrule height #1}
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders{0pt}
11 \newcommand*\normalheaders{0pt}
12
13 \newcommand*\fancyhead[2][]{\fancyhead{#1}{#2}}
14 \newcommand*\fancyfoot[2][]{\fancyfoot{#1}{#2}}
15 \newcommand*\fancyhf[2][]{\fancyhf{#1}{#2}}
16 \newcommand*\fancypagestyle[2][]{\fancypagestyle{#1}{#2}}

```

---

```

17 \newcommand*{\lhead}[2][]{}
18 \newcommand*{\chead}[2][]{}
19 \newcommand*{\rhead}[2][]{}
20 \newcommand*{\lfoot}[2][]{}
21 \newcommand*{\cfoot}[2][]{}
22 \newcommand*{\rfoot}[2][]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m m} {}
27
28 \NewDocumentCommand{\newpagestyle}{m o m} {}
29
30 \newcommand*{\iffloatpage}[2]{#2}
31 \newcommand*{\ifftopfloat}[2]{#2}
32 \newcommand*{\iffbotfloat}[2]{#2}

```

---

File 327 **l warp-nccfoots.sty**

§ 436 Package **nccfoots**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccfoots nccfoots is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

⚠ For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{{}^{\mathrm{\footnotesize{#1}}}}}
4 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{#1}}}
5 \end{warpMathJax}

```

---

File 328 **l warp-nccmath.sty**

§ 437 Package **nccmath**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg nccmath nccmath is patched for use by l warp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs{\LWR@origeqnarraystar}{eqnarray*}

```

```

6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10 \LWR@eqnarrayfactor
11 }
12 }
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18 \begingroup
19 \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20 \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21 \boolfalse{LWR@numbereqnarray}
22 \LWR@eqnarrayfactor
23 \endgroup
24
25 }
26
27 \def\eqs{%
28 \@ifstar\NCCmath@eqsstar\NCCmath@eqs%
29 }
30 \newcommand*{\NCCmath@eqsstar}[2][]{{\begin{eqnarray*}#2\end{eqnarray*}}}
31 \newcommand*{\NCCmath@eqs}[2][]{{\begin{eqnarray}#2\end{eqnarray}}}
32
33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][]{\text{\#2}\notag \\}}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][]{\ceqn{}{#1}}}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1]{#2}}{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3]{#3}}
```

As of v0.86, MATHJAX v3 does not offer  $\backslash*$ , so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnstar}[1][0.5ex]{\vphantom{#1}}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\NCCmath@eqsstar\NCCmath@eqs%}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1]{}}
```

$\backslash eq$ ,  $\backslash eqs$ ,  $\backslash eqalign$  are created by L<sup>A</sup>T<sub>E</sub>X, not MATHJAX.

```
52 \end{warpMathJax}
```

---

File 329 **l warp-needspace.sty**

§ 438 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg **needspace** **needspace** is ignored.

**for HTML output:** Discard all options for **l warp-needspace**:

```
1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}
```

---

File 330 **l warp-newpxmath.sty**

§ 439 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg **newpxmath** **newpxmath** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from **newtxmath** is used:

```
1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{up}{}
15 \LWR@mathjax@addgreek@l@up*{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it*{}{it}
```

Optional slanted Greek:

```

18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21
22 \end{warpMathJax}
```

### File 331 **l warp-newtxmath.sty**

## § 440 Package **newtxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg newtxmath **newtxmath** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}{}
21 \LWR@mathjax@addgreek@l@it{}{it}{}
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{%
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
}
```

```
29 }{}
```

Optional slanted Greek:

```
30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```

---

### File 332 **l warp-newtxsf.sty**

§ 441 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxsf newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output**

```
1 \LWR@ProvidesPackagePass[newtxsf][2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{l warp-common-mathjax-newpxmath}
6
7 \LWR@origRequirePackage{l warp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}
21 \LWR@mathjax@addgreek@l@it{}{it}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{%
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}}
```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```

---

### File 333 **l warp-nextpage.sty**

#### § 442 Package **nextpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg **nextpage** **nextpage** is ignored.

**for HTML output:** Discard all options for **l warp-nextpage**.

```

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}
```

---

### File 334 **l warp-nfssext-cfr.sty**

#### § 443 Package **nfssext-cfr**

*(Emulates or patches code by CLEA F. REES.)*

Pkg **nfssext-cfr** **nfssext-cfr** is emulated in **HTML**, and used as-is in print output.

Results depend on the browser's font.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nfssext-cfr}[2017/03/28]

Macros which are present in the **l warp** core are commented out here.

```

2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
```

```
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embossstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*\{\LWR@f@family\}\tt}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*\{\LWR@f@family\}\tt}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sishape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rishape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*\{\LWR@f@series\}\md}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*\{\LWR@f@series\}\db}
45 \newrobustcmd{\LWR@HTML@sweight}{\renewcommand*\{\LWR@f@series\}\sb}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*\{\LWR@f@series\}\eb}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*\{\LWR@f@series\}\ub}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*\{\LWR@f@series\}\lg}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*\{\LWR@f@series\}\el}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*\{\LWR@f@series\}\ul}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57 \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
```

```
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embossstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sishape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape} % adapt to the new print version
112 \LWR@formatted{scshape} % adapt to the new print version
113 \LWR@formatted{upshape} % adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{}{%
117 \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}
121 \FilenameNullify{%
```

```
122 \LetLtxMacro\lnstyle{@empty%
123 \LetLtxMacro\osstyle{@empty%
124 \LetLtxMacro\instyle{@empty%
125 \LetLtxMacro\sustyle{@empty%
126 \LetLtxMacro\swstyle{@empty%
127 \LetLtxMacro\pstyle{@empty%
128 \LetLtxMacro\tistyle{@empty%
129 \LetLtxMacro\ostyle{@empty%
130 \LetLtxMacro\postyle{@empty%
131 \LetLtxMacro\lstyle{@empty%
132 \LetLtxMacro\ofstyle{@empty%
133 \LetLtxMacro\altstyle{@empty%
134 \LetLtxMacro\regstyle{@empty%
135 \LetLtxMacro\embossstyle{@empty%
136 \LetLtxMacro\ornamentalstyle{@empty%
137 \LetLtxMacro\qstyle{@empty%
138 \LetLtxMacro\shstyle{@empty%
139 \LetLtxMacro\swashstyle{@empty%
140 \LetLtxMacro\tmstyle{@empty%
141 \LetLtxMacro\tvstyle{@empty%
142 \LetLtxMacro\tstyle{@empty%
143 \LetLtxMacro\lstyle{@empty%
144 \LetLtxMacro\tlstyle{@empty%
145 \LetLtxMacro\plstyle{@empty%
146 \LetLtxMacro\tostyle{@empty%
147 % \LetLtxMacro\sishape{@empty%
148 \LetLtxMacro\olshape{@empty%
149 \LetLtxMacro\scolshape{@empty%
150 \LetLtxMacro\ushape{@empty%
151 \LetLtxMacro\scushape{@empty%
152 \LetLtxMacro\uishape{@empty%
153 \LetLtxMacro\rishape{@empty%
154 \LetLtxMacro\regwidth{@empty%
155 \LetLtxMacro\nwidth{@empty%
156 \LetLtxMacro\cdwidth{@empty%
157 \LetLtxMacro\ecwidth{@empty%
158 \LetLtxMacro\ucwidth{@empty%
159 \LetLtxMacro\etwidth{@empty%
160 \LetLtxMacro\epwidth{@empty%
161 \LetLtxMacro\exwidth{@empty%
162 \LetLtxMacro\uxwidth{@empty%
163 \LetLtxMacro\mbweight{@empty%
164 \LetLtxMacro\dbweight{@empty%
165 \LetLtxMacro\sbweight{@empty%
166 % \LetLtxMacro\ebweight{@empty%
167 \LetLtxMacro\ubweight{@empty%
168 % \LetLtxMacro\lgweight{@empty%
169 \LetLtxMacro\elweight{@empty%
170 \LetLtxMacro\ulweight{@empty%
171 % \LetLtxMacro\itshape{@empty%
172 % \LetLtxMacro\scshape{@empty%
173 % \LetLtxMacro\upshape{@empty%
174 \LetLtxMacro\dfshape{@empty%
175 \LetLtxMacro\swshape{@empty%
176 \LetLtxMacro\ornament@gobble%
```

```
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \newrobustcmd{\LWR@HTML@textsU}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

185 \ifdef{\LWR@HTML@textsw}{}{\% duplicated by fontaxes
186 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
187 \LWR@formatted{textsw}
188 }
189
190 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
191 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
195 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
196 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
199 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
200 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}
202 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
203 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
204 \newrobustcmd{\LWR@HTML@texttt}[1]{\InlineClass{texttt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
208 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
209 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
210 \newrobustcmd{\LWR@HTML@textwash}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
214 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
215 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textmb}[1]{{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}}
225 \newrobustcmd{\LWR@HTML@textdb}[1]{{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}}
226 \newrobustcmd{\LWR@HTML@textsb}[1]{{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}}
227 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
228 \newrobustcmd{\LWR@HTML@textub}[1]{{\LWR@HTML@ubweight\InlineClass{textub}{#1}}}
229 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
230 \newrobustcmd{\LWR@HTML@textel}[1]{{\LWR@HTML@elweight\InlineClass{textel}{#1}}}
```

```
231 \newrobustcmd{\LWR@HTML@textul}[1]{{\LWR@HTML@ulweight\InlineClass{textul}{#1}}}
232
233 \LWR@formatted{textln}
234 \LWR@formatted{textos}
235 \LWR@formatted{textin}
236 \LWR@formatted{textsu}
237 % \LWR@formatted{textsi}
238 \LWR@formatted{textdf}
239 \LWR@formatted{textti}
240 \LWR@formatted{textlt}
241 \LWR@formatted{textof}
242 \LWR@formatted{textalt}
243 \LWR@formatted{textreg}
244 \LWR@formatted{emboss}
245 \LWR@formatted{textorn}
246 \LWR@formatted{textqt}
247 \LWR@formatted{textsh}
248 \LWR@formatted{texttm}
249 \LWR@formatted{texttv}
250 \LWR@formatted{textl}
251 \LWR@formatted{texto}
252 \LWR@formatted{textp}
253 \LWR@formatted{textt}
254 \LWR@formatted{textpl}
255 \LWR@formatted{textpo}
256 \LWR@formatted{texttl}
257 \LWR@formatted{textto}
258 \LWR@formatted{textol}
259 \LWR@formatted{textwash}
260 \LWR@formatted{textu}
261 \LWR@formatted{textscu}
262 \LWR@formatted{textui}
263 \LWR@formatted{textri}
264 \LWR@formatted{textnw}
265 \LWR@formatted{textcd}
266 \LWR@formatted{textec}
267 \LWR@formatted{textuc}
268 \LWR@formatted{texttet}
269 \LWR@formatted{textep}
270 \LWR@formatted{textex}
271 \LWR@formatted{textux}
272 \LWR@formatted{textrw}
273 \LWR@formatted{textmb}
274 \LWR@formatted{textdb}
275 \LWR@formatted{textsb}
276 % \LWR@formatted{texteb}
277 \LWR@formatted{textub}
278 % \LWR@formatted{textlg}
279 \LWR@formatted{textel}
280 \LWR@formatted{textul}
281

282 \FilenameNullify{%
283 \LetLtxMacro{textln}{\firstofone}%
284 \LetLtxMacro{textos}{\firstofone}%
285 }
```

```
285 \LetLtxMacro{textin}{\firstofone%}
286 \LetLtxMacro{textsu}{\firstofone%}
287 % \LetLtxMacro{textsi}{\firstofone%}
288 \LetLtxMacro{textdf}{\firstofone%}
289 \LetLtxMacro{textsw}{\firstofone%}
290 \LetLtxMacro{textti}{\firstofone%}
291 \LetLtxMacro{textlt}{\firstofone%}
292 \LetLtxMacro{textof}{\firstofone%}
293 \LetLtxMacro{textalt}{\firstofone%}
294 \LetLtxMacro{textreg}{\firstofone%}
295 \LetLtxMacro{emboss}{\firstofone%}
296 \LetLtxMacro{textorn}{\firstofone%}
297 \LetLtxMacro{textqt}{\firstofone%}
298 \LetLtxMacro{textsh}{\firstofone%}
299 \LetLtxMacro{texttm}{\firstofone%}
300 \LetLtxMacro{texttv}{\firstofone%}
301 \LetLtxMacro{textl}{\firstofone%}
302 \LetLtxMacro{texto}{\firstofone%}
303 \LetLtxMacro{textp}{\firstofone%}
304 \LetLtxMacro{textt}{\firstofone%}
305 \LetLtxMacro{textpl}{\firstofone%}
306 \LetLtxMacro{textpo}{\firstofone%}
307 \LetLtxMacro{texttl}{\firstofone%}
308 \LetLtxMacro{textto}{\firstofone%}
309 \LetLtxMacro{textol}{\firstofone%}
310 \LetLtxMacro{textwash}{\firstofone%}
311 \LetLtxMacro{textu}{\firstofone%}
312 \LetLtxMacro{textscu}{\firstofone%}
313 \LetLtxMacro{textui}{\firstofone%}
314 \LetLtxMacro{textri}{\firstofone%}
315 \LetLtxMacro{textnw}{\firstofone%}
316 \LetLtxMacro{textcd}{\firstofone%}
317 \LetLtxMacro{textec}{\firstofone%}
318 \LetLtxMacro{textuc}{\firstofone%}
319 \LetLtxMacro{textet}{\firstofone%}
320 \LetLtxMacro{textep}{\firstofone%}
321 \LetLtxMacro{textex}{\firstofone%}
322 \LetLtxMacro{textux}{\firstofone%}
323 \LetLtxMacro{textrw}{\firstofone%}
324 \LetLtxMacro{textmb}{\firstofone%}
325 \LetLtxMacro{textdb}{\firstofone%}
326 \LetLtxMacro{textsb}{\firstofone%}
327 % \LetLtxMacro{texteb}{\firstofone%}
328 \LetLtxMacro{textub}{\firstofone%}
329 % \LetLtxMacro{textlg}{\firstofone%}
330 \LetLtxMacro{textel}{\firstofone%}
331 \LetLtxMacro{textul}{\firstofone%}
332 }
333
334 \providecommand*{\zeroslash}{\relax}
335 \newrobustcmd*{\LWR@HTML@zeroslash}{\relax}
336 \LWR@formatted{zeroslash}
```

File 335 **l warp-nicefrac.sty**

## § 444 Package nicefrac

(Emulates or patches code by AXEL REICHERT.)

Pkg nicefrac nicefrac is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

```

2 \DeclareRobustCommand*{\LWR@HTML@@UnitsNiceFrac}[3][]{%
3 {% localize font selection
4 #1{%
5 \LWR@textcurrentfont{%
6 \InlineClass{numerator}{#2}%
7 /%
8 \InlineClass{denominator}{#3}%
9 }%
10 }%
11 }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*{\LWR@HTML@@UnitsUglyFrac}[3][]{%
17 {% localize font selection
18 #1{\LWR@textcurrentfont{#2/#3}}%
19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

For MATHJAX:

```
23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][]{\mathinner{{}^{\textstyle#1}\!\!\!/\!\!\!{}_{\textstyle#2}}\!\!{}_{\textstyle#3}}}
25 \end{warpMathJax}
```

File 336 **lwarf-niceframe.sty**

§ 445 Package **niceframe**

Pkg niceframe niceframe is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

```
2 \newcommand{\LWR@niceframe}[3]{%
```

---

```

3 \begin{LWR@setvirtualpage}%
4 \setlength{\LWR@templengthone}{#1}%
5 \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]#3}%
6 #2
7 \end{BlockClass}%
8 \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}

```

---

### File 337 **l warp-nicematrix.sty**

#### § 446 Package **nicematrix**

*(Emulates or patches code by F. PANTIGNY.)*

Pkg **nicematrix** **nicematrix** is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **MATHJAX** Keys/values are ignored in MATHJAX. \Cdots, etc. do not span multiple cells. AutoNiceMatrix, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use \inlinemathother and \inlinemathnormal, or for display math use \displaymathother and \displaymathnormal.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nicematrix}[2020/11/23]

NiceTabular must be converted to SVG to support the various **nicematrix** options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4 \begin{lateximage}[-nicematrix-\~\PackageDiagramAltText]%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8 \begin{lateximage}[-nicematrix-\~\PackageDiagramAltText]%
9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2]{\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17 \newenvironment{NiceArray}[2][]%
18 {\ifnextchar[\{\LWRnicearrayarrayopt{#2}\}\LWRnicearrayarray{#2}}%

```

```

19 {\end{array}}%
20 }
21
22 \CustomizeMathJax{%
23 \newcommand{\LWRnicearraywithdelimtwo}[2][]{%
24 \ifnextchar[\LWRnicearrayarrayopt{\#2}]{\LWRnicearrayarray{\#2}}{%
25 }%
26 }

```

General case with left/right delimiters:

```

27 \CustomizeMathJax{%
28 \newenvironment{NiceArrayWithDelims}[2]{%
29 {%
30 \def\LWRnicearrayrightdelim{\right#2}%
31 \left#1%
32 \LWRnicearraywithdelimtwo{%
33 }%
34 {\end{array}\LWRnicearrayrightdelim}%
35 }

```

Instances of specific delimiters:

```

36 \CustomizeMathJax{%
37 \newenvironment{pNiceArray}{%
38 {\begin{NiceArrayWithDelims}{}{}{}}%
39 {\end{NiceArrayWithDelims}}%
40 }
41
42 \CustomizeMathJax{%
43 \newenvironment{bNiceArray}{%
44 {\begin{NiceArrayWithDelims}[]{}{}}%
45 {\end{NiceArrayWithDelims}}%
46 }
47
48 \CustomizeMathJax{%
49 \newenvironment{BNiceArray}{%
50 {\begin{NiceArrayWithDelims}{}{\{\}}{}}%
51 {\end{NiceArrayWithDelims}}%
52 }
53
54 \CustomizeMathJax{%
55 \newenvironment{vNiceArray}{%
56 {\begin{NiceArrayWithDelims}{}{\vert}{\vert}}{}}%
57 {\end{NiceArrayWithDelims}}%
58 }
59
60 \CustomizeMathJax{%
61 \newenvironment{VNiceArray}{%
62 {\begin{NiceArrayWithDelims}{}{\Vert}{\Vert}}{}}%
63 {\end{NiceArrayWithDelims}}%
64 }

```

Ignore optional arg and use standard environments:

---

```

65 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][]{\begin{matrix}}{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```

71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%
75 \newcommand{\Block}[2][]{\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock}%
76 }

```

Form an approximation:

```

77 \CustomizeMathJax{%
78 \newcommand{\diagbox}[2]{%
79 \begin{array}{l}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
80 }%
81 }

```

More approximations:

```

82 \CustomizeMathJax{\let\hdottedline\hline}
83 \CustomizeMathJax{\let\Hline\hline}
84
85 \CustomizeMathJax{\newcommand{\ldots}[1][]{\dots}}
86 \CustomizeMathJax{\newcommand{\cdots}[1][]{\cdots}}
87 \CustomizeMathJax{\newcommand{\vdots}[1][]{\vdots}}
88 \CustomizeMathJax{\newcommand{\ddots}[1][]{\ddots}}
89 \CustomizeMathJax{\newcommand{\Iddots}[1][]{\mathinner{\text{\scriptsize{\texttt{\&}}}x22F0}}}
90
91 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
92 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate AutoNiceMatrix in MATHJAX.

```

93 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
94 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
95 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
98 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
99 \end{warpMathJax}

```

---

**File 338 l warp-noitcru l .sty****§ 447 Package noitcru l**

(Emulates or patches code by PAUL EBERMANN.)

Pkg noitcru l noitcru l is used as-is for SVG and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{noitcru l}[2006/04/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitcru l}[1]{\underline{#1}!}}
4 \end{warpMathJax}
```

---

**File 339 l warp-nolbreaks .sty****§ 448 Package nolbreaks**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg nolbreaks nolbreaks is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

```
2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}
```

---

**File 340 l warp-nomencl .sty****§ 449 Package nomencl**

(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)

Pkg nomencl nomencl is patched for use by l warp.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{nomencl}[2005/09/22]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \def\@@nomenclature[#1]#2#3{%
3 \def\@tempa[#2]\def\@tempb[#3]%
4 \protected@write\@nomenclaturefile{}%
```

```
5 {\string\nomenclatureentry{\#1\name@verb@\tempa @[\{\name@verb@\tempa\}]%
6 \begingroup\name@verb@\tempb\protect\nomeref{\theequation}%
7 |nompageref}{\theLWR@previousautopagelabel}}% l warp
8 \endgroup
9 \esphack}
10
11 \renewcommand*\pagedeclaration[1]{, \nameref{\BaseJobname-autopage-\#1}}%
```

---

#### File 341 **l warp-nonfloat.sty**

### § 450 Package **nonfloat**

(Emulates or patches code by KAI RASCHER.)

Pkg nonfloat nonfloat is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```
2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

---

#### File 342 **l warp-nonumonpart.sty**

### § 451 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

#### File 343 **l warp-nopageno.sty**

### § 452 Package **nopageno**

Pkg nopageno nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

#### File 344 **l warp-notes.sty**

### § 453 Package **notes**

Pkg notes notes is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

---

```

2 \newcommand*{\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}{%
4 \BlockClass{notes#1}%
5 \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}%
6 \BlockClass{notescontents}%
7 }%
8 {\endBlockClass\endBlockClass}%
9 }%
10 }%
11 \LWR@notes@onenote{importantnote}{!}%
12 \LWR@notes@onenote{warningnote}{--}%
13 \LWR@notes@onenote{informationnote}{i}%
14 \LWR@notes@onenote{informationnote}{i}%
15 \LWR@notes@onenote{informationnote}{i}%
16 \LWR@notes@onenote{informationnote}{i}%

```

---

File 345 **l warp-notespages.sty**

§ 454 Package **notespages**

Pkg notespages notespages is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*{\npnotesname}{}%
3 \newcommand*{\npnotestext}{}%
4 \newcommand*{\remainingtextheight}{}%
5 \newdimen\remainingtextheight%
6 \newcommand*{\notetitletext}{}%
7 \newcommand*{\notesareatext}{}%
8 \newcommand*{\npnpiinfo}[1]{}%
9 \newcommand*{\tracingnpmarks}{}%
10 \newcommand*{\notespage}[1]{}%
11 \newcommand*{\notespages}[1]{}%
12 \newcommand*{\notesfill}[1]{}%
13 \newcommand*{\setnotespages}[1]{}%
14 \newcommand*{\definenotesoption}[2]{}%
15 \newcommand{\definenotesstyle}[2]{}%
16 \newcommand{\definetitlestyle}[2]{}%
17 \newcommand{\nppatchchapter}[1]{}%
18 \newcommand{\npunpatchchapter}{}%

```

---

File 346 **l warp-nowidow.sty**

§ 455 Package **nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

Pkg nowidow nowidow is ignored.

for HTML output: Discard@ProvidesPackageDrop{l warp-nowidow}[2011/09/20]

---

```
\nowidow [<lines>]
\setnowidow [<lines>
 2 \newcommand*\nowidow[1][]{}
 3 \newcommand*\setnowidow[1][]{}

\noclub [<lines>]
\setnoclub [<lines>
 4 \newcommand*\noclub[1][]{}
 5 \newcommand*\setnoclub[1][]{}
```

---

### File 347 **l warp-ntheorem.sty**

## § 456 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg **ntheorem** **ntheorem** is patched for use by **l warp**.

Table 20: Ntheorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

---

### § 456.1 **Limitations**

⚠ **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

⚠ **Equation numbering** **ntheorem** has a bug with equation numbering in *AMS* environments when the option `thref` is used. **l warp** does not share this bug, so equations with `\split`, etc, are numbered correctly with **l warp**'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of **ntheorem**'s `thref` option.

### § 456.2 **Options**

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

⚠ **Disabled options** The options `thmmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because **l warp** emulated `hyperref`.

**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2 \AtEndDocument{
3 \PackageWarningNoLine{lwarp}{%
4 Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5 referencing, including
6 \protect\label \space and \protect\thref.\MessageBreak
7 Cleveref does not accept ntheorem's optional\MessageBreak
8 argument for \protect\label, so it will appear\MessageBreak
9 in the text. It is recommended to remove the\MessageBreak
10 thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11 and remove any trailing optional arguments for \protect\label%
12 }%
13 }
14 }
15
16
17 \newbool{LWR@ntheoremmarks}
18 \boolfalse{LWR@ntheoremmarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@ntheoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@ntheoremamsthm}
27 \boolfalse{LWR@ntheoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@ntheoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}%
33 \DeclareOption{hyperref}{}%
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]
```

### § 456.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}[1]{#1}
37 \AtBeginDocument{
38 \@ifpackageloaded{cleveref}{
39 \gdef\@thm#1#2#3{%
40 \if@thmmarks
41 \stepcounter{end\InTheoType ctr}%
42 \fi
43 \renewcommand{\InTheoType}{#1}%
44 \if@thmmarks
45 \stepcounter{curr#1ctr}%
46 \setcounter{end#1ctr}{0}%
47 \fi
}
```

```
48 \refstepcounter[#1]{#2}% <<< cleveref modification
49 \theorem@prework
50 \LWR@forcenewpage% lwarp

51 \LWR@printpendingfootnotes% lwarp

52 \BlockClass{theorembody#1}\LWR@thisthmstyle% lwarp
53 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
54 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
55 \iftmh@inframe
56 \thm@topsep\theoreminframepreskipamount
57 \thm@topsepadd\theoreminframepostskipamount
58 \else
59 \thm@topsep\theorempreskipamount
60 \thm@topsepadd\theorempostskipamount
61 \fi
62 \else% oldframeskips
63 \thm@topsep\theorempreskipamount
64 \thm@topsepadd \theorempostskipamount
65 \ifvmode\advance\thm@topsepadd\partopsep\fi
66 \fi
67 \@topsep\thm@topsep
68 \@topsepadd\thm@topsepadd
69 \advance\linewidth -\theorem@indent
70 \advance\linewidth -\theorem@rightindent
71 \advance\@totalleftmargin \theorem@indent
72 \parshape @ne \@totalleftmargin \linewidth
73 \@ifnextchar[{\@ythm[#1]{#2}{#3}}{\@xthm[#1]{#2}{#3}}
74 }
75 }% not @ifpackageloaded{cleveref}
76 \gdef@\thm#1#2#3%
77 \if@thmmarks
78 \stepcounter{end\InTheoType ctr}%
79 \fi
80 \renewcommand{\InTheoType}{#1}%
81 \if@thmmarks
82 \stepcounter{curr#1ctr}%
83 \setcounter{end#1ctr}{0}%
84 \fi
85 \refstepcounter{#2}%
86 \theorem@prework
87 \LWR@forcenewpage% lwarp

88 \LWR@printpendingfootnotes% lwarp

89 \BlockClass{theorembody#1}\LWR@thisthmstyle% lwarp
90 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
91 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
92 \iftmh@inframe
93 \thm@topsep\theoreminframepreskipamount
94 \thm@topsepadd\theoreminframepostskipamount
95 \else
96 \thm@topsep\theorempreskipamount
97 \thm@topsepadd\theorempostskipamount
```

```

98 \fi
99 \else% oldframeskips
100 \thm@topsep\theorempreskipamount
101 \thm@topsepadd \theorempostskipamount
102 \ifvmode\advance\thm@topsepadd\partopsep\fi
103 \fi
104 \atopsep\thm@topsep
105 \atopsepadd\thm@topsepadd
106 \advance\linewidth -\theorem@indent
107 \advance\linewidth -\theorem@rightindent
108 \advance\@totalleftmargin \theorem@indent
109 \parshape \@ne \@totalleftmargin \linewidth
110 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
111 }
112 }
113 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

114 \gdef\theoremstyle#1{%
115 \ifundefined{thm@#1}{\@warning
116 {Unknown theoremstyle '#1'. Using 'plain'}%
117 \theorem@style{plain}
118 \renewcommand{\LWR@newtheoremstyle}{plain}%
119 \l warp
120 }%
121 \theorem@style{#1}
122 \renewcommand{\LWR@newtheoremstyle}{#1}%
123 }
124 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

125
126 \gdef@\xnthm#1#2[#3]{%
127 \ifthm@tempif
128 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}%
129 \expandafter\ifundefined{c@#1}%
130 {\@definecounter{#1}}%
131 \newctr{#1}[#3]%
132 \expandafter\xdef\csname the#1\endcsname{%
133 \expandafter\noexpand\csname the#3\endcsname \thmcOUNTERsep
134 {\noexpand\csname the\theoremnumbering\endcsname{#1}}}%
135 \expandafter\gdef\csname mkheader@#1\endcsname
136 {\csname setparms@#1\endcsname
137 \thm{#1}{#1}{#2}
138 }%
139 \global\@namedef{end#1}{\@endtheorem}
140 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{\LWR@thmstyle#1}}}%
141 \l warp
142 }
143
144 \gdef@\ynthm#1#2{%
145 \ifthm@tempif

```

```

146 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
147 \expandafter@ifundefined{c@#1}%
148 {\@definecounter{#1}}{}%
149 \expandafter\xdef\csname the#1\endcsname
150 {\noexpand\csname the\theoremnumbering\endcsname{#1}}%
151 \expandafter\gdef\csname mkheader@#1\endcsname
152 {\csname setparms@#1\endcsname
153 \@thm{#1}{#1}{#2}
154 }%
155 \global\@namedef{end#1}{\endtheorem}
156 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\nameuse{\LWR@thmstyle#1}}}{% lwarp
157 \fi
158 }
159
160 \gdef@othm#1[#2]{#3}%
161 \ifundefined{c@#2}{\nocounterr{#2}}%
162 {\iftfm@tempif
163 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
164 \global\@namedef{the#1}{\nameuse{the#2}}%
165 \expandafter\protected\xdef\csname num@addtheoremline#1\endcsname{%
166 \noexpand\enum@addtheoremline{#1}{#3}}%
167 \expandafter\protected\xdef\csname nonum@addtheoremline#1\endcsname{%
168 \noexpand\nonum@addtheoremline{#1}{#3}}%
169 \theoremkeyword{#3}}%
170 \expandafter\protected\xdef\csname #1Keyword\endcsname
171 {\the\theoremkeyword}%
172 \expandafter\gdef\csname mkheader@#1\endcsname
173 {\csname setparms@#1\endcsname
174 \@thm{#1}{#2}{#3}
175 }%
176 \global\@namedef{end#1}{\endtheorem}
177 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\nameuse{\LWR@thmstyle#1}}}{% lwarp
178 \fi}
179 }
```

#### § 456.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

180 \newcommand{\LWR@inctheorem}{%
181 \addtocounter{\LWR@thisautoid}{1}%
182 \LWR@stoppars%
183 \LWR@htmlltag{%
184 a id=\textquotedbl\textprint@mbbox{autoid-\arabic{\LWR@thisautoid}}\textquotedbl%
185 }%
186 \LWR@htmlltag{/a}%
187 \LWR@startpars%
188 }
```

## § 456.5 \newtheoremstyle

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader<style>.

```

189 \gdef\newtheoremstyle#1#2#3{%
190 \expandafter\@ifundefined{th@#1}%
191 {\expandafter\gdef\csname the#1\endcsname{%
192 \def\@begintheorem##1##2{%
193 \LWR@inctheorem% lwarp
194 #2}%
195 \def\@opargbegintheorem##1##2##3{%
196 \LWR@inctheorem% lwarp
197 #3}%
198 }%
199 }%
200 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}%
201 }
```

## § 456.6 Standard styles

```

202 \renewtheoremstyle{plain}%
203 {\item[%
204 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
205 {\item[%
206 \InlineClass{theoremheaderplain}{##1\ ##2\ (###3)\theorem@separator}]}%
207
208 \renewtheoremstyle{break}%
209 {\item[%
210 \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
211]}%
212 {\item[%
213 \InlineClass{theoremheaderbreak}{%
214 ##1\ ##2\ (###3)\theorem@separator}\newline
215]}%
216
217 \renewtheoremstyle{change}%
218 {\item[%
219 \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]}%
220 {\item[%
221 \InlineClass{theoremheaderchange}{##2\ ##1\ (###3)\theorem@separator}]}%
222
223 \renewtheoremstyle{changebreak}%
224 {\item[%
225 \InlineClass{theoremheaderchangebreak}{%
226 ##2\ ##1\theorem@separator}\newline
227]}%
228 {\item[%
229 \InlineClass{theoremheaderchangebreak}{%
230 ##2\ ##1\ (###3)\theorem@separator}\newline
231]}
```

```

231]}
232
233 \renewtheoremstyle{margin}%
234 {\item[
235 \InlineClass{theoremheadermargin}{##2 \qquad ##1\theorem@separator}
236]}%
237 {\item[
238 \InlineClass{theoremheadermargin}{##2 \qquad ##1\ (###3)\theorem@separator}
239]}
240
241 \renewtheoremstyle{marginbreak}%
242 {\item[
243 \InlineClass{theoremheadermarginbreak}{%
244 ##2 \qquad ##1\theorem@separator}\newline
245]}%
246 {\item[
247 \InlineClass{theoremheadermarginbreak}{%
248 ##2 \qquad ##1\ (###3)\theorem@separator}\newline
249]}
250
251 \renewtheoremstyle{nonumberplain}%
252 {\item[
253 \InlineClass{theoremheaderplain}{##1\theorem@separator}]}%
254 {\item[
255 \InlineClass{theoremheaderplain}{##1\ (###3)\theorem@separator}]}
256
257 \renewtheoremstyle{nonumberbreak}%
258 {\item[
259 \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline
260]}%
261 {\item[
262 \InlineClass{theoremheaderbreak}{##1\ (###3)\theorem@separator}\newline
263]}
264
265 \renewtheoremstyle{empty}%
266 {\item[]}%
267 {\item[
268 \InlineClass{theoremheaderplain}{##3}]}
269
270 \renewtheoremstyle{emptybreak}%
271 {\item[]}%
272 {\item[
273 \InlineClass{theoremheaderplain}{##3}]\ \newline}

```

## § 456.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
274 \ifbool{LWR@ntheoremamsthm}{}{%
```

Upright text via CSS:

```

275 \newtheoremstyle{plainupright}%
276 {\item[
```

```

277 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]]}%
278 {\item[%
279 \InlineClass{theoremheaderplain}{##1\ ##2\ (#3)\theorem@separator}]]}

```

Upright text and small caps header via CSS:

```

280 \newtheoremstyle{nonumberplainuprightsc}%
281 {\item[%
282 \InlineClass{theoremheadersc}{##1\theorem@separator}]]}%
283 {\item[%
284 \InlineClass{theoremheadersc}{##1\ (#3)\theorem@separator}]]}%
285 }% not amsthm

```

## § 456.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

286 \ifbool{LWR@ntheoremamsthm}{}{%
287 \ifx\thm@usestd@\undefined
288 \else
289 \theoremnumbering{arabic}
290 \theoremstyle{plain}
291 \RequirePackage{latexsym}
292 \theoremsymbol{\Box}
293 \theorembodyfont{\itshape}
294 \theoremheaderfont{\normalfont\bfseries}
295 \theoremseparator{}
296 \renewtheorem{Theorem}{Theorem}
297 \renewtheorem{theorem}{Theorem}
298 \renewtheorem{Satz}{Satz}
299 \renewtheorem{satz}{Satz}
300 \renewtheorem{Proposition}{Proposition}
301 \renewtheorem{proposition}{Proposition}
302 \renewtheorem{Lemma}{Lemma}
303 \renewtheorem{lemma}{Lemma}
304 \renewtheorem{Korollar}{Korollar}
305 \renewtheorem{korollar}{Korollar}
306 \renewtheorem{Corollary}{Corollary}
307 \renewtheorem{corollary}{Corollary}
308
309 \theoremstyle{plainupright}
310 \theorembodyfont{\upshape}
311 \theoremsymbol{\HTMLunicode{25A1}}% UTF-8 white box
312 \renewtheorem{Example}{Example}
313 \renewtheorem{example}{Example}
314 \renewtheorem{Beispiel}{Beispiel}
315 \renewtheorem{beispiel}{Beispiel}
316 \renewtheorem{Bemerkung}{Bemerkung}
317 \renewtheorem{bemerkung}{Bemerkung}
318 \renewtheorem{Anmerkung}{Anmerkung}
319 \renewtheorem{anmerkung}{Anmerkung}
320 \renewtheorem{Remark}{Remark}
321 \renewtheorem{remark}{Remark}
322 \renewtheorem{Definition}{Definition}

```

```

323 \renewtheorem{definition}{Definition}
324
325 \theoremstyle{nonumberplainuprightsc}
326 \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
327 \renewtheorem{Proof}{Proof}
328 \renewtheorem{proof}{Proof}
329 \renewtheorem{Beweis}{Beweis}
330 \renewtheorem{beweis}{Beweis}
331 \qedsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
332
333 \theoremsymbol{}
334 \fi
335 }% not amsthm

```

## § 456.9 amsthm option

Only if the `amsthm` option was given:

```

336 \ifbool{LWR@ntheoremamsthm}{
337
338 \gdef\th@plain{%
339 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
340 \def\@begintheorem##1##2{%
341 \LWR@inctheorem% l warp
342 \item[%
343 \InlineClass{theoremheaderplain}{##1\ ##2.}%
344]}%
345 \def\@opargbegintheorem##1##2##3{%
346 \LWR@inctheorem% l warp
347 \item[%
348 \InlineClass{theoremheaderplain}{##1\ ##2\ (###3).}%
349]}%
350
351 \gdef\th@nonumberplain{%
352 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
353 \def\@begintheorem##1##2{%
354 \LWR@inctheorem% l warp
355 \item[%
356 \InlineClass{theoremheaderplain}{##1.}%
357]}%
358 \def\@opargbegintheorem##1##2##3{%
359 \LWR@inctheorem% l warp
360 \item[%
361 \InlineClass{theoremheaderplain}{##1\ (###3).}%
362]}%
363
364 \gdef\th@definition{%
365 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
366 \def\@begintheorem##1##2{%
367 \LWR@inctheorem% l warp
368 \item[%
369 \InlineClass{theoremheaderdefinition}{##1\ ##2.}%
370]}%
371 \def\@opargbegintheorem##1##2##3{%
372 \LWR@inctheorem% l warp

```

```
373 \item[%
374 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}%
375]}%
376 %
377 \gdef\th@nonumberdefinition{%
378 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
379 \def\@begintheorem##1##2{%
380 \LWR@inctheorem% l warp
381 \item[%
382 \InlineClass{theoremheaderdefinition}{##1.}%
383]}%
384 \def\@opargbegintheorem##1##2##3{%
385 \LWR@inctheorem% l warp
386 \item[%
387 \InlineClass{theoremheaderdefinition}{##1\ (##3).}%
388]}%
389 %
390 \gdef\th@remark{%
391 \def\theorem@headerfont{\itshape}\normalfont%
392 \def\@begintheorem##1##2{%
393 \LWR@inctheorem% l warp
394 \item[%
395 \InlineClass{theoremheaderremark}{##1\ ##2.}%
396]}%
397 \def\@opargbegintheorem##1##2##3{%
398 \LWR@inctheorem% l warp
399 \item[%
400 \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}%
401]}%
402 %
403 \gdef\th@nonumberremark{%
404 \def\theorem@headerfont{\itshape}\normalfont%
405 \def\@begintheorem##1##2{%
406 \LWR@inctheorem% l warp
407 \item[%
408 \InlineClass{theoremheaderremark}{##1.}%
409]}%
410 \def\@opargbegintheorem##1##2##3{%
411 \LWR@inctheorem% l warp
412 \item[%
413 \InlineClass{theoremheaderremark}{##1\ (##3).}%
414]}%
415 %
416 \gdef\th@proof{%
417 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
418 \def\@begintheorem##1##2{%
419 \LWR@inctheorem% l warp
420 \item[%
421 \InlineClass{theoremheaderproof}{##1.}%
422]}%
423 \def\@opargbegintheorem##1##2##3{%
424 \LWR@inctheorem% l warp
425 \item[%
426 \InlineClass{theoremheaderproof}{##1\ (##3).}%
427]}}%
```

```

428
429
430
431 \newcounter{proof}%
432 \if@thmmarks
433 \newcounter{currproofctr}%
434 \newcounter{endproofctr}%
435 \fi
436
437 \gdef\proofSymbol{\openbox}
438
439 \newcommand{\proofname}{Proof}
440
441 \newenvironment{proof}[1][\proofname]{
442 \th@proof
443 \def\theorem@headerfont{\itshape}%
444 \normalfont
445 \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
446 \thm{proof}{proof}{#1}
447 }%
448 {\endtheorem}
449
450 }{}% amsthm option

```

## § 456.10 Ending a theorem

Patched for css:

```

451 \let\LWR@origendtheorem\endtheorem
452 \renewcommand{\endtheorem}{%
453 \ifbool{\LWR@ntheoremarks}{%
454 \ifsetendmark{%
455 \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
456 \setendmarkfalse%
457 }%
458 }{}%
459 \LWR@origendtheorem% also does \endtrivlist
460 \ifbool{\LWR@ntheoremarks}{\global\setendmarktrue}{%
461 \LWR@printpendingfootnotes%
462 \endBlockClass%
463 }

```

### § 456.11 \NoEndMark

```
464 \gdef\NoEndMark{\global\setendmarkfalse}
```

### § 456.12 List-of

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {\langle 1: printed type\rangle} {\langle 2: #\rangle} {\langle 3: optional\rangle} {\langle 4: page\rangle}
```

```
465 \renewcommand{\thm@thmline@noname}[4]{%
466 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}}%
467 }
468
469 \renewcommand{\thm@thmline@name}[4]{%
470 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}}%
471 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `l warp`:

```
472 \def\thm@thmline{\thm@thmline@name}
```

Patch for `css`:

```
473 \def\listtheorems#1{
474 \LWR@htmlelementclass{nav}{lothm}%
475 \begingroup
476 \c@tocdepth=-2%
477 \def\thm@list{\#1}\thm@processlist
478 \endgroup
479 \LWR@htmlelementclassend{nav}{lothm}%
480 }
```

### § 456.13 Symbols

Proof QED symbol:

```
481 \newcommand{\qed}{\qquad\the\qedsymbol}
482
483 \AtBeginDocument{
484 \@ifundefined{LWR@orig@openbox}{
485 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
486 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
487 \LetLtxMacro{\LWR@orig@Box}{\Box}
488
489 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
490 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
491 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
492
493 \appto{\LWR@restoreorigformatting}{%
494 \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
495 \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
496 \LetLtxMacro{\Box}{\LWR@orig@Box}%
497 }% appto
```

```
498 }{ }% @ifundefined
499 }% AtBeginDocument
```

#### § 456.14 Cross-referencing

```
\thref {\langle label \rangle}

500 \newcommand*{\thref}[1]{\cref{#1}}%
```

---

File 348 **l warp-octave.sty**

#### § 457 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

Pkg octave octave is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% l warp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }
```

Use unicode for the prime character:

```
11 \RenewDocumentCommand{\@Tick}{}{\text{\textnormal{2032}}}
```

Catch the inline font:

```
12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15 \pitchfont{%
16 \LWR@textcurrentfont% l warp
17 \MakeUppercase{#1}%
18 \IfValueTF{#2}{#2}{\textsubscript{#3}}%
19 }%
20 }%
21 }%
22 \else%
23 {%
24 \pitchfont{%
25 \LWR@textcurrentfont% l warp
26 \GetOctaveTick{#1}{#2}{#3}%
27 }%
28 }%
29 }%
30 }
```

27 }%  
28 }%  
29 }%  
30 \fi%  
31 }

The original was hard to adapt to lwp's handling of &.

```

32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars

```

File 349 **l warp-orcidlink.sty**

§ 458 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

Pkg orcidlink orcidlink is patched for use by lwarp.

```
for HTML output: 1 \RequirePackage{lwarp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2020/11/21]

4 \renewcommand\orcidlink[1]{%
5 \texorpdfstring{%
6 {%
7 \href{%
8 {https://orcid.org/#1}}{%
9 \begin{tikzpicture}[yscale=-1,transform shape]
10 \pic{orcidlogo};
11 \end{tikzpicture}}%
12 }{%
13 \begin{tikzpicture}[yscale=-1,transform shape]
14 \pic{orcidlogo};
15 \end{tikzpicture}}%
16 }{%
17 }%
18 \begin{tikzpicture}[yscale=-1,transform shape]
19 \pic{orcidlogo};
20 \end{tikzpicture}%
21 }
```

```
22 }
23
24 \begin{warpMathJax}
25 \CustomizeMathJax{\newcommand{\orcidlink}[1]{}}
26 \end{warpMathJax}
```

---

**File 350 l warp-overpic.sty****§ 459 Package overpic**

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg overpic overpic is patched for use by l warp.

⚠ **scaling** The macros \overpicfontsize and \overpicfontskip are used during HTML generation. These are sent to \fontsize to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the overpic and Overpic environments.

See section 88.2 for the print-mode version of \overpicfontsize and \overpicfontskip.

**for HTML output:** 1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

```
2 \newcommand*\overpicfontsize{12}
3 \newcommand*\overpicfontskip{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6 \begin{lateximage}%
7 \fontsize{\overpicfontsize}{\overpicfontskip}%
8 \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}
```

---

**File 351 l warp-pagegrid.sty****§ 460 Package pagegrid**

Pkg pagegrid pagegrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

```
2 \newcommand*{\pagegridsetup}[1]{}
```

---

File 352 **l warp-pagenote.sty**

§ 461 Package **pagenote**

Pkg pagenote pagenote works as-is, but the page option is disabled.

⚠ **labels** Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:** 1 \DeclareOption{page}{}  
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\lwr@syncnotenumbers{\lwr@synconenotenumber{\lwrpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\lwrpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\lwrpagenote]{{}^{\mathrm{\#1}}}}
7 \end{warpMathJax}
```

There is no \pagenotemark, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\lwr@syncnotenames{\lwr@synconenotename{\lwrpagenote}{\pagenotename}}
```

---

File 353 **l warp-pagesel.sty**

§ 462 Package **pagesel**

Pkg pagesel pagesel is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

---

File 354 **l warp-paralist.sty**

§ 463 Package **paralist**

(Emulates or patches code by BERND SCHANDL.)

Pkg paralist paralist is supported with minor changes.

**for HTML output:** 1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert \item to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\lwr@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\lwr@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\lwr@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{{\normalfont\textrm{\bfseries}#1}}
```

### File 355 **l warp-parallel.sty**

#### § 464 Package **parallel**

*(Emulates or patches code by MATTHIAS ECKERMANN.)*

Pkg **parallel** **parallel** is emulated.

Package options are ignored. Footnotes are treated as normal l warp footnotes.

Environment option c gives side-by-side <div>s of class minipage, each of whose width is a percent depending on the given left and right widths, proportional to \ linewidth.

Inside each environment, \ linewidth and \ textwidth are set for the print-output sizes.

**for HTML output:** Discard all options for **l warp-parallel**:

```
1 \lwr@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{\lwr@parallel@Lwidth}
3 \newcounter{\lwr@parallel@Rwidth}
4 \newcommand*\lwr@parallel@border{%
5 \setlength{\lwr@parallel@Lwidth}{\textwidth}%
6 \setlength{\lwr@parallel@Rwidth}{\textwidth}%
7 \renewcommand*\lwr@parallel@border{}%
8 \ifstreq{\lwr@parallel@border}{v}%
9 \renewcommand*\lwr@parallel@border{%
10 \setlength{\lwr@parallel@Lwidth}{\lwr@userstextwidth}%
11 \setlength{\lwr@parallel@Rwidth}{\lwr@userstextwidth}%
12 \renewcommand*\lwr@parallel@border{}%
13 \ifstreq{\lwr@parallel@border}{v}%
14 \renewcommand*\lwr@parallel@border{; border-left: 2px solid black}%
15 \else\lwr@parallel@border\fi%
16 }%
17 \else\lwr@parallel@border\fi%
18 \lwr@parallel@border%
19 }%
```

```
15 }%
16 { }%
17 \ifblank{#2}{%
18 \ifblank{#3}{% {}{%
19 \setcounter{LWR@parallel@Lwidth}{45}%
20 \setcounter{LWR@parallel@Rwidth}{45}%
21 }{}{%
22 { }{}{x}%
23 \setlength{\LWR@templengthone}{\linewidth - #3}%
24 \setcounter{LWR@parallel@Lwidth}{%
25 90 * \ratio{\LWR@templengthone}{\linewidth}%
26 }%
27 \setcounter{LWR@parallel@Rwidth}{%
28 90 * \ratio{#3}{\linewidth}%
29 }%
30 }{}{x}%
31 }% #2 blank
32 { % #2 non-blank
33 \ifblank{#3}{% {x}{%
34 \setcounter{LWR@parallel@Lwidth}{%
35 90 * \ratio{#2}{\linewidth}%
36 }%
37 \setlength{\LWR@templengthone}{\linewidth - #2}%
38 \setcounter{LWR@parallel@Rwidth}{%
39 90 * \ratio{\LWR@templengthone}{\linewidth}%
40 }%
41 }{}{%
42 {x}{}
43 \setcounter{LWR@parallel@Lwidth}{%
44 90 * \ratio{#2}{\linewidth}%
45 }%
46 \setcounter{LWR@parallel@Rwidth}{%
47 90 * \ratio{#3}{\linewidth}%
48 }%
49 }% {x}{x}%
50 }% #2 non-blank
51 }%
52 { %
53 \ParallelAtEnd%
54 \renewcommand*{\ParallelAtEnd}{}%
55 \LWR@printpendingfootnotes%
56 }%
57
58 \newcommand*{\ParallelLTText}[1]{%
59 \begin{BlockClass}[% width:\arabic{LWR@parallel@Lwidth}\% ; % space
60 padding: .5ex 1\% ; % space
61]{minipage}%
62 #1%
63 \end{BlockClass}%
64 }
65 }
66
67 \newcommand*{\ParallelRTText}[1]{%
68 \begin{BlockClass}[% width:\arabic{LWR@parallel@Rwidth}\% ; % space
69
```

---

```

70 padding: .5ex 1\% ; % space
71 \LWR@parallel@border%
72]{minipage}%
73 #1%
74 \end{BlockClass}%
75 }
76
77 \newcommand*{\ParallelPar}{\LWR@printpendingfootnotes}
78
79 \newcommand*{\ParallelAtEnd}{}
```

---

File 356 **l warp-parcolumns.sty**

§ 465 Package **parcolumns**

*(Emulates or patches code by JONATHAN SAUER.)*

Pkg **parcolumns** **parcolumns** is emulated.

**rulebetween** is honored. The other keys are ignored, including **colwidths**.

Each column is placed inside a `<div>` of class `minipage`, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, `\linewidth`, `\textwidth`, and `\textheight` are set for a virtual 6 × 9 inch page, with `\linewidth` divided by the number of columns.

for **HTML output**: Discard all options for **l warp-parcolumns**:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}%
11 \define@key{LWRparcols}{distance}{}%
12 \define@key{LWRparcols}{rulebetween}[true]{%
13 \setbool{LWR@parcolumns@rule}{#1}%
14 }%
15 \define@key{LWRparcols}{nofirstindent}{}%
16 \define@key{LWRparcols}{sloppy}{}%
17 \define@key{LWRparcols}{sloppyspaces}{}%
18
19 \newenvironment*{parcolumns}[2][]{%
20 \begin{LWR@setvirtualpage}*[#2]%
21 \setcounter{LWR@parcolumns@numcols}{#2}%
22 \setcounter{LWR@parcolumns@thiscol}{1}%
23 }
```

```
24 \boolfalse{LWR@parcolumns@started}%
25 \boolfalse{LWR@parcolumns@rule}%
26 \setcounter{LWR@parcolumns@width}{%
27 85/#2
28 }%
29 \setkeys{LWR@parcols}{#1}%
30 }
31 {%

32 \colplacechunks%
33 \end{LWR@setvirtualpage}%
34 }
35

36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37 \ifbool{LWR@parcolumns@started}%
38 {}%
39 {%
40 \LWR@htmldivclass{parcolumns}%
41 \booltrue{LWR@parcolumns@started}%
42 }%
43 \ifboolexpr{%
44 bool {LWR@parcolumns@rule} and
45 test {%
46 \ifnumgreater
47 {\value{LWR@parcolumns@thiscol}}%
48 {1}
49 }%
50 }%
51 {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}%
52 {\renewcommand{\LWR@tempone}{} }%
53 \begin{BlockClass}[%%
54 width:\arabic{LWR@parcolumns@width}\% ; % space
55 padding: .5ex 1\% ; % space
56 \LWR@tempone%
57]{minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62

63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64 \whileboolexpr{%
65 test {%
66 \ifnumcomp%
67 {\value{LWR@parcolumns@thiscol}}%
68 {<}%
69 {#1}%
70 }%
71 }{%
72 \LWR@parcolumns@onecol{}%
73 }%
74 \LWR@parcolumns@onecol{#2}%
75 }
76

77 \newcommand*{\colplacechunks}{%
```

---

```

78 \ifboolexist{LWR@parcolumns@started}%
79 {%
80 \LWR@htmldivclassend{div}%
81 \boolfalse{LWR@parcolumns@started}%
82 }%
83 {}%
84 \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 357 **l warp-parnotes.sty**

§ 466 Package **parnotes**

*(Emulates or patches code by CHELSEA HUGHES.)*

Pkg parnotes parnotes is supported with some patches.

for HTML output: 1 \LWR@ProvidesPackagePass{parnotes}[2019/07/23]

```

2 \long\def\PN@parnote@real#1#2{%
3 \parnotemark{#1}%
4 % Unless this is the first parnote in \PN@text, add a separator first
5 \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6 % Redefine \@currentlabel to the parnote label, so \label works
7 \g@addto@macro\PN@text{%
8 \phantomsection%
9 \def\@currentlabel{#1}%
10 \def\cref@currentlabel{%
11 \parnotemark[\arabic{parnotemark}][]\theparnotemark%
12 }%
13 }%
14 \g@addto@macro\PN@text{%
15 \LWR@textcurrentfont{%
16 \parnotemark{#1}\nolinebreak\thinspace#2%
17 }%
18 }%
19 }
20
21 \def\PN@parnotes@real{%
22 % We call \par later, so this avoids recursion with \PN@parnotes@auto
23 \PN@inparnotestru
24 \unless\ifvmode\par\fi
25 % Avoid page breaks between a paragraph and its parnotes
26 \nopagebreak\addvspace{\parnotevskip}%
27 \LWR@forcenewpage% l warp
28 \begin{BlockClass}(note){footnotes}% l warp
29 {\parnotefmt{\PN@text}\par}%
30 \end{BlockClass}% l warp
31 \global\def\PN@text{}%
32 \addvspace{\parnotevskip}%
33 %
34 % These can be enabled or disabled by package options
35 %

```

---

```

36 \PN@disable@indent
37 \PN@reset@optional
38 \PN@inparnotesfalse
39 }
40
41 \AtBeginDocument{
42 \crefname{parnotemark}{paragraph note}{paragraph notes}
43 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
44 }

```

For MATHJAX:

```

45 \begin{warpMathJax}
46 \providecommand{\parnotename}{parnote}
47 \appto\LWR@syncnotenumbers{%
48 \addtocounter{parnotemark}{-1}% specific to parnotes
49 \LWR@synconenotenumber{\LWRparnote}{\theparnotemark}%
50 \addtocounter{parnotemark}{1}% specific to parnotes
51 }
52 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRparnote}{\parnotename}}
53 \CustomizeMathJax{\def\LWRparnote{1}}
54 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{\{}^{\mathrm{#1}}\}}
55 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{\{}^{\mathrm{#1}}\}}
56 \end{warpMathJax}

```

---

### File 358 **l warp-parskip.sty**

#### § 467 Package **parskip**

Pkg **parskip** **parskip** is ignored.

**for HTML output:** Discard all options for **l warp-parskip**.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

### File 359 **l warp-pbalance.sty**

#### § 468 Package **pbalance**

Pkg **pbalance** **pbalance** is ignored.

**for HTML output:**

```

1 \RequirePackage{balance}
2
3 \LWR@ProvidesPackageDrop{pbalance}[2020/12/16]
4 \newcommand\shrinkLastPage[1]{}

```

---

**File 360 l warp-pbox.sty**

§ 469      Package **pbox**

*(Emulates or patches code by SIMON LAW.)*

Pkg pbox pbox is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

```
2 \NewDocumentCommand{\pbox}{O{t} O{} O{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }%
6 %
7 \newcommand{\setminwidth}[3][\columnwidth]{%
8 \setwidth{#2}{#3}%
9 }%
10 %
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

**File 361 l warp-pdfcol.sty**

§ 470      Package **pdfcol**

Pkg pdfcol pdfcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]

```
2 %
3 \ltx@ifpdfcolAvailable
4 \pdfcolAvailablefalse
5 %
6 \def\pdfcolErrorNoStacks{
7 \PackageInfo{l warp-pdfcol}{Ignoring pdfcol for HTML output.}%
8 }%
9 %
10 \def\pdfcolInitStack#1{}%
11 %
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13 %
14 \def\pdfcolSwitchStack#1{}%
15 %
16 \def\pdfcolSetCurrentColor{}%
17 %
18 \def\pdfcolSetCurrent#1{}%
```

---

File 362 **l warp-pdfcolfoot.sty**

§ 471 Package **pdfcolfoot**

Pkg pdfcolfoot pdfcolfoot is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]  
2  
3 \newcommand\*{\pdfcolfoot@switch}{}  
4  
5 \newcommand\*{\pdfcolfoot@current}{}

---

File 363 **l warp-pdfcolmk.sty**

§ 472 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

---

File 364 **l warp-pdfcolparallel.sty**

§ 473 Package **pdfcolparallel**

Pkg pdfcolparallel pdfcolparallel is ignored.

**for HTML output:** 1 \RequirePackage{keyval}%  
2  
3 \LWR@ProvidesPackageDropA{pdfcolparallel}[2016/05/16]

---

Pass options to parallel:

4 \DeclareOption\*{%

5     \PassOptionsToPackage{\CurrentOption}{parallel}}%

6 }

---

Process the options:

7 \LWR@ProvidesPackageDropB

Require parallel with the given options:

8 \RequirePackage{parallel}[2003/04/13]

Ignore the new key:

```
9 \define@key{parallel}{rulebetweencolor}{}{}
```

---

### File 365 **l warp-pdfcolparcolumns.sty**

#### § 474 Package **pdfcolparcolumns**

Pkg pdfcolparcolumns pdfcolparcolumns is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

Pass options to parcolumns:

```
2 \DeclareOption*{%
3 \PassOptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}{}
```

---

### File 366 **l warp-pdfcomment.sty**

#### § 475 Package **pdfcomment**

Pkg pdfcomment pdfcomment is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}{[2016/06/13]}

```
2 \newenvironment{pdfsidelinecomment}[2][]{\begin{array}{c}}{\end{array}}
3 \newcommand{\pdfcomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
4 \newcommand{\pdfmargincomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
5 \newcommand{\pdfmarkupcomment}[3][]{\begin{array}{c}\text{#1}\end{array}\text{#2}}
6 \newcommand{\pdffreetextcomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
7 \newcommand{\pdfsquarecomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
8 \newcommand{\pdfcirclecomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
9 \newcommand{\pdflinecomment}[2][]{\begin{array}{c}\text{#1}\end{array}}
10 \newcommand{\pdftooltip}[3][]{\begin{array}{c}\text{#1}\end{array}\text{#2}}
11 \newcommand{\pdfcommentsetup}[2][]{\begin{array}{c}\text{#1}\end{array}}
```

```
12 \newcommand{\listofpdfcomments}[1][]{}
13 \newcommand{\setliststyle}[1]{}
14 \newcommand{\defineliststyle}[2]{}
15 \newcommand{\defineavatar}[2]{}
16 \newcommand{\definestyle}[2]{}
```

For MATHJAX:

```
17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][]{\#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][]{\#2}}
20 \end{warpMathJax}
```

---

File 367 **l warp-pdfcrypt.sty**

§ 476 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}
```

---

File 368 **l warp-pdflscape.sty**

§ 477 Package **pdflscape**

Pkg pdflscape pdflscape is ignored.

for HTML output: Discard all options for l warp-pdflscape:

```
1 \LWR@ProvidesPackageDrop{pdflscape}[2019/12/05]
2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}
```

---

File 369 **l warp-pdfmarginpar.sty**

§ 478 Package **pdfmarginpar**

Pkg pdfmarginpar pdfmarginpar is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]

---

```
2 \newcommand{\pdfmarginpar}[2][]{}
3 \newcommand{\pdfmarginparset}[1]{}
```

---

File 370 **lwarf-pdfpages.sty**

§ 479      Package **pdfpages**

*(Emulates or patches code by ANDREAS MATTHIAS.)*

Pkg pdfpages pdfpages is patched for use by lwarf.

Option link and linkname work:

---

```
\hyperlink{<filename>.pdf}{<pagenumber>}{some text}
\hyperlink{<linkname>}{<pagenumber>}{some text}
```

---

Options which make no sense in HTML are disabled.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfpages}[2017-10-31]

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}(){}
6 \define@key{pdfpages}{signature*}){}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagestwist}[false]{}
11 \define@key{pdfpages}{doublepagestwistodd}[false]{}
12 \define@key{pdfpages}{doublepagestwist*}[false]{}
13 \define@key{pdfpages}{doublepagestwistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}(){}
17 \define@key{pdfpages}{linkfit}(){}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodoct}(){}
20 \define@key{pdfpages}{linkfilename}(){}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}
```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of `eso-pic`:

```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

`\LWR@esopic@newpage` At each `\newpage`.

```
32 \newcommand*{\LWR@esopic@newpage}{{}}
```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {}%

```

If the `link` option was specified, add a hyper target:

```

36 \ifAM@link%
37 \hypertarget{\AM@linkname.\AM@page}{}%
38 \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39 \begingroup%
40 \setlength{\unitlength}{1in}%
41 \begin{picture}(8,10.5)%
42 \ESO@HookIIBG%
43 \end{picture}%
44 \endgroup%
45 \global\let\ESO@HookIIBG\empty%
46 }
47 }

```

`\AM@output` Patched to use `\LWR@esopic@newpage`.

```

48 \xpatchcmd{\AM@output}
49 {\newpage}
50 {\LWR@esopic@newpage}
51 {}
52 {\LWR@patcherror{pdfpages}{AM@output-1}}
53
54 \xpatchcmd{\AM@output}
55 {\newpage}
56 {\LWR@esopic@newpage}
57 {}
58 {\LWR@patcherror{pdfpages}{AM@output-2}}
59
60 \xpatchcmd{\AM@output}
61 {\newpage}
62 {\LWR@esopic@newpage}
63 {}
64 {\LWR@patcherror{pdfpages}{AM@output-3}}

```

\includepdf Patched to set the user's paper size.

```
65 \xpretocmd{\includepdf}{%
66 \begingroup%
67 \setlength{\paperwidth}{\LWR@userspaperwidth}%
68 \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}{%
70 %
71 \xapptocmd{\includepdf}{%
72 \endgroup%
73 }{}{}
```

\includepdfmerge Patched to set the user's paper size.

```
74 \xpretocmd{\includepdfmerge}{%
75 \begingroup%
76 \setlength{\paperwidth}{\LWR@userspaperwidth}%
77 \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{%
79 %
80 \xapptocmd{\includepdfmerge}{%
81 \endgroup%
82 }{}{}
```

\AM@hyper@begin@i Hyper links are created by \LWR@esopic@newpage, so don't create them here:

```
83 \renewcommand{\AM@hyper@begin@i}{}
```

---

### File 371 l warp-pdfprivacy.sty

## § 480 Package pdfprivacy

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

### File 372 l warp-pdfrender.sty

## § 481 Package pdfrender

Pkg pdfrender pdfrender is allowed during HTML, but it has no effect on HTML text output. pdfrender is enabled for use with xfakebold, and it is enabled during HTML so that it may be in use when an svg math image is started. I.e. xfakebold's \setBold may be used outside of a math expression and still be detected when the math begins.

The l warp-pdfrender package is present because it used to disable pdfrender, so this newer version is to overwrite older versions.

for HTML output 1 \LWR@ProvidesPackagePass{pdfrender}[2019/12/29]

---

**File 373 l warp-pdfsync.sty****§ 482 Package pdfsync**

(Emulates or patches code by J. LAURENS.)

Pkg pdfsync pdfsync is ignored.

**for HTML output:** Discard all options for l warp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]

2 \newcommand*{\pdfsync}{}
3 \newcommand*{\pdfsyncstart}{}
4 \newcommand*{\pdfsyncstop}{}
```

---

**File 374 l warp-pdftricks.sty****§ 483 Package pdftricks**

(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)

Pkg pdftricks pdftricks is patched for use by l warp.

**⚠ convert image files** The pdftricks image files <jobname>-fig\*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **l warpmk pdftosvg <jobname>-fig\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

```
2 \def\PDFTfilename{\BaseJobname-fig\thePSfig}
```

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{l warp-pdftricks}{
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'l warpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'l warpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}
```

---

**File 375 l warp-pdfx.sty****§ 484 Package pdfx**

Pkg pdfx pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

**File 376 l warp-perpage.sty****§ 485 Package perpage**

(Emulates or patches code by DAVID KASTRUP.)

Pkg perpage perpage is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines \the<countername> to include \theperpage, it is necessary to place that redefinition inside a warpprint environment to avoid modifying the HTML definitions.

\AddAbsoluteCounter must not be inside warpprint, as the counter must be added for HTML also, although it is not incremented.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

\setcounter{footnoteReset}{1}

For bigfoot, manyfoot, or perpage:

\MakePerPage{footnoteX}  
— or —  
\MakeSortedPerPage{footnoteX}

The footnotes are reset when they are printed, according to section level as set by FootnoteDepth, which is not necessarily by HTML page. This is recommended for \alph, \Alph, or \fnsymbol footnotes, due to the limited number of symbols which are available.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]

```
2 \newcommand\AddAbsoluteCounter[1]
3 {
4 \@ifundefined{c@abs#1}%
5 \expandafter\newcount\csname c@abs#1\endcsname
6 \global\value{abs#1}\@ne
7 %
8 \global\expandafter\let\csname cl@abs#1\endcsname\@empty
9 %
10 \expandafter\xdef\csname theabs#1\endcsname{%
11 \noexpand\number \csname c@abs#1\endcsname}
```

---

```

10 }%
11 % \global\@namedef{c@pabs@#1}{\pp@cl@begin
12 % \stepcounter{abs#1}%
13 % \pp@cl@end}%
14 % \@addtoreset{pabs@#1}{#1}%
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23 \ifltxcounter{#2Reset}{%
24 \setcounter{#2Reset}{#1}%
25 }%
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}%
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33 \ifltxcounter{#2Reset}{%
34 \setcounter{#2Reset}{#1}%
35 }%
36 }%
37 }
38
39 \newcommand*{\theperpage}{1}

```

---

File 377 **lwarf-pfnote.sty**

§ 486 Package **pfnote**

Pkg **pfnote** **pfnote** is ignored.

**⚠ pfnote numbers** While emulating **pfnote**, **lwarf** is not able to reset HTML footnote numbers per page number to match the printed version, as **HTML** has no concept of page numbers. **lwarf** therefore uses continuous footnote numbering even for **pfnote**.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 378 **lwarf-phfqit.sty**

§ 487 Package **phfqit**

(Emulates or patches code by PHILIPPE FAIST.)

Pkg **phfqit** **phfqit** is patched for use by **lwarf**.

---

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

2 \LetLtxMacro{\LWR@origbitstring}{\bitstring}
3
4 \renewcommand{\bitstring}[1]{%
5 \InlineClass[%
6 text-decoration: overline underline ;
7]{\bitstring}{#1}%
8 \phfqit@bitstring{#1}%
9 }
10
11 \appto{\LWR@restoreorigformatting}{%
12 \LetLtxMacro{\bitstring}{\LWR@origbitstring}%
13 }
```

---

### File 379 **lwarp-*physics*.sty**

#### § 488      Package **physics**

(Emulates or patches code by SERGIO C. DE LA BARRERA.)

Pkg **physics** **physics** works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 **physics** extension is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physics}%
 No date is provided by the package.
```

```

2 \begin{warpMathJax}
3 \PackageWarningNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}
```

---

### File 380 **lwarp-*physunits*.sty**

#### § 489      Package **physunits**

(Emulates or patches code by BRIAN W. MULLIGAN.)

Pkg **physunits** **physunits** is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]
```

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}{\mathrm{V}}}
7 \CustomizeMathJax{\newcommand{\Volt}{\mathrm{V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}{\mathrm{C}}}
```

```
9 \CustomizeMathJax{\newcommand{\esu}{\mathsf{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}{\Omega}\mathsf{\Omega}}
11 \CustomizeMathJax{\newcommand{\Amp}{\mathsf{A}}}
12 \CustomizeMathJax{\newcommand{\Farad}{\mathsf{F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}{\mathsf{T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}{\mathsf{G}}}
15 \CustomizeMathJax{\newcommand{\Henry}{\mathsf{H}}}
16 \CustomizeMathJax{\newcommand{\eV}{\mathsf{eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\mathsf{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\mathsf{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}{\mathsf{J}}}
20 \CustomizeMathJax{\newcommand{\Joule}{\mathsf{J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\mathsf{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\mathsf{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\mathsf{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}{\mathsf{calorie}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\mathsf{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\mathsf{ton},\, of,\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}{\mathsf{W}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\mathsf{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\mathsf{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\mathsf{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}{\mathsf{m}}}
32 \CustomizeMathJax{\newcommand{\m}{\mathsf{m}}}
33 \CustomizeMathJax{\newcommand{\km}{\mathsf{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\mathsf{au}}}
35 \CustomizeMathJax{\newcommand{\pc}{\mathsf{pc}}}
36 \CustomizeMathJax{\newcommand{\ly}{\mathsf{ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\mathsf{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\mathsf{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\mathsf{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\mathsf{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\mathsf{mi}}}
42 \CustomizeMathJax{\newcommand{\s}{\mathsf{s}}}
43 \CustomizeMathJax{\newcommand{\Sec}{\mathsf{Sec}}}
44 \CustomizeMathJax{\newcommand{\Min}{\mathsf{Min}}}
45 \CustomizeMathJax{\newcommand{\h}{\mathsf{h}}}
46 \CustomizeMathJax{\newcommand{\y}{\mathsf{y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\mathsf{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}{\mathsf{g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\mathsf{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\mathsf{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\mathsf{amu}}}
53 \CustomizeMathJax{\newcommand{\N}{\mathsf{N}}}
54 \CustomizeMathJax{\newcommand{\Newton}{\mathsf{N}}}
55 \CustomizeMathJax{\newcommand{\dyne}{\mathsf{dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\mathsf{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmph}{\mathsf{kmph}}}
58 \CustomizeMathJax{\newcommand{\mph}{\mathsf{mi}}}
59 \CustomizeMathJax{\newcommand{\mps}{\mathsf{mps}}}
60 \CustomizeMathJax{\newcommand{\kts}{\mathsf{kts}}}
61
62 \CustomizeMathJax{\newcommand{\mpss}{\mathsf{mpss}}}
```

---

```

64 \CustomizeMathJax{\newcommand{\gacc}{\mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftps}{\mathrm{ft}\mathit{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][]{\mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][]{\mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\mathit{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\mathit{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\mathit{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\mathit{rev}\mathit{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][]{\mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][]{\mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\mathit{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][]{\mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\mathit{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\mathit{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\mathit{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\mathit{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][]{\mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}{\mathit{Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\mathit{mol}}}
85 \end{warpMathJax}

```

---

### File 381 **lwarf-picinpar.sty**

## § 490 Package **picinpar**

(Emulates or patches code by FRIEDHELM SOWA.)

Pkg picinpar picinpar is patched for use by lwarf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3 \if #2r%
4 \begin{BlockClass}[float:right](note){marginblock}%
5 \else%
6 \begin{BlockClass}[float:left](note){marginblock}%
7 \fi%
8 #3\par%
9 #4%
10 \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}%
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17 \begin{BlockClass}{framebox}%
18 \expandafter\box\csname #1box\endcsname%
19 \end{BlockClass}%
20 }%
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23 \begin{BlockClass}{framebox}%
24 \expandafter\box\csname #1box\endcsname%
25 \end{BlockClass}%
26 }%
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}%
30 #1: #2%
31 \end{BlockClass}%
32 }%
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 % \advance\c@figure -1%
36 \window[#1,#2,{#3},{\def\@capttype{figure}%
37 \wincaption#4\par}] }%
38
39 \def\endLWR@HTML@figwindow{\endwindow}%
40
41 \LWR@formattedenv{figwindow}

```

For tabwindow, to change the catcode of &, \StartDefiningTabulars is used before absorbing the arguments, and \EndDefiningTabulars is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 % \advance\c@table -1%
44 \window[#1,#2,{#3},{\def\@capttype{table}%
45 \wincaption#4\par}] }%
46
47 \newcommand*\LWR@HTML@tabwindow{%
48 \StartDefiningTabulars%
49 \LWR@HTML@subtabwindow%
50 }%
51
52 \def\endLWR@HTML@tabwindow{%
53 \endwindow%
54 \StopDefiningTabulars%
55 }%
56
57 \LWR@formattedenv{tabwindow}

```

---

File 382 **l warp-pifont.sty**

§ 491 Package **pifont**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg pifont pifont is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

for HTML output: 1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]

```
2 \renewcommand{\Pisymbol}[2]{%
3 \begin{ lateximage }*[Pisymbol][pisymbol#1#2]%
4 {\Pifont{#1}\char#2}%
5 \end{ lateximage }%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{%
9 \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}%
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14 \par\noindent\hspace*{0.5in}%
15 \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}%
16 }
17 \LWR@formatted{Piline}
```

---

File 383 **l warp-pinlabel.sty**

§ 492 Package **pinlabel**

(Emulates or patches code by COLIN ROURKE.)

Pkg pinlabel pinlabel is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{pinlabel}% no date given

```
2 \xpretocmd{\psfig}
3 {\begin{ lateximage }[-pinlabel-\~\PackageDiagramAltText]%
4 {}%
5 {\LWR@patcherror{pinlabel}{psfigA}}%
6
7 \xapptocmd{\psfig}
8 {\end{ lateximage }%
9 {}%
10 {\LWR@patcherror{pinlabel}{psfigB}}}
```

---

**File 384 l warp-placeins.sty****§ 493 Package placeins**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg placeins placeins is ignored.

Discard all options for l warp-placeins:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]  
2 \newcommand\*\{\FloatBarrier}{}  

---

**File 385 l warp-plarydshln.sty****§ 494 Package plarydshln**

Pkg plarydshln plarydshln is emulated by l warp-arydshln.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]  
2 \LWR@origRequirePackage{l warp-arydshln}  

---

**File 386 l warp-plex.sty****§ 495 Package plex**

Pkg plex plex is preloaded by jtarticle and related classes.

**for HTML output:** 1 \LWR@Loadbefore{plex}  
2  
3 \LWR@ProvidesPackagePass{plex}[2017/07/21]  
  
4 \let\tate\relax  
5  
6 \DeclareExpandableDocumentCommand{\rensucci}{s o m}{#3}  
7  
8 % \layoutfloat{width,height}[pos]#4  
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}  
10  
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]  
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d> d() o}{}  
13  
14 \LetLtxMacro\pcaption\caption

---

```

15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> 0{t} 0{} 0{t} m}
21 {\LWR@HTML@sub@minipage[#2]{#3}{#4}{#5}}
22 {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> 0{t} 0{} 0{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> 0{0pt} 0{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox[#2]{#4}%
36 }

```

picture, as modified by pext, is encapsulated by the lwarf core.

---

File 387 **lwarf-plexarydshln.sty**

§ 496 Package **plexarydshln**

Pkg plexarydshln plexarydshln is emulated by lwarf-arydshln.

**for HTML output:**

- 1 \LWR@ProvidesPackageDrop{plexarydshln}[2018/10/20]
- 2 \LWR@origRequirePackage{lwarf-arydshln}

---

File 388 **lwarf-plextbl.sty**

§ 497 Package **plextbl**

Pkg plextbl plextbl is emulated by lwarf-colortbl.

**for HTML output:**

- 1 \LWR@ProvidesPackageDrop{plextbl}[2018/09/19]
- 2 \LWR@origRequirePackage{lwarf-colortbl}

---

**File 389 l warp-plimsoll.sty****§ 498 Package plimsoll**

(Emulates or patches code by PALLE JØRGENSEN.)

Pkg plimsoll plimsoll is used as-is for SVG math, and emulated for MATHJAX.

The `circ` option is honored. For MATHJAX, `\plimsollsans` is the same as `\plimsollroman`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}
4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9 {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10 {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}
```

---

**File 390 l warp-prelim2e.sty****§ 499 Package prelim2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg prelim2e prelim2e is ignored.

**for HTML output:** Discard all options for l warp-prelim2e:

```
1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}
```

---

**File 391 l warp-prettyref.sty****§ 500 Package prettyref**

(Emulates or patches code by KEVIN S. RULAND.)

Pkg prettyref prettyref is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]  
2 \newrefformat{fig}{Figure \ref{#1}}  
3 \newrefformat{tab}{Table \ref{#1}}

---

File 392 **l warp-preview.sty**

§ 501 Package **preview**

Pkg preview preview is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]  
2 \newenvironment{preview}{}{}  
3 \newenvironment{nopreview}{}{}  
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}  
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}  
6 \newcommand{\PreviewSnarfEnvironment}[2][]{  
7 \NewDocumentCommand{\PreviewOpen}{s o}{}  
8 \NewDocumentCommand{\PreviewClose}{s o}{}  
9 \let\ifPreview\iffalse \fi for syntax highlighting

---

File 393 **l warp-psfrag.sty**

§ 502 Package **psfrag**

(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)

Pkg psfrag psfrag is patched for use by l warp.

⚠ **use psfrags** The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by l warp.

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A lateximage captures the modified image from the document.

```
2 \BeforeBeginEnvironment{psfrags}{%
3 \begin{lateximage}[-psfrags-\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}
```

---

**File 394 l warp-psfragx.sty**

§ 503      Package **psfragx**

*(Emulates or patches code by PASCAL KOCKAERT.)*

Pkg psfragx psfragx is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```
2 \def\pfx@includegraphicx#1#2{%
3 \begin{latentimage}[-psfragx-\PackageDiagramAltText]%
4 \mbox{\pfx@overpix{\#1}{\#2}\endpfx@overpix}%
5 \end{latentimage}%
6 }
7
8 \def\@@overpix[#1]<#2>[#3]#4{%
9 \begin{latentimage}[-psfragx-\PackageDiagramAltText]%
10 \pfx@overpix{\#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14 \endpfx@overpix%
15 \end{latentimage}%
16 }
```

---

**File 395 l warp-pst-eps.sty**

§ 504      Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg pst-eps pst-eps is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```
2 \renewenvironment{TeXtoEPS}{}{%
3 \renewcommand{\PSTtoEPS}[3][]{}
```

---

**File 396 l warp-pstool.sty**

§ 505      Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

Pkg pstool pstool is patched for use by l warp.

\graphicspath is ignored, and the file directory must be stated.

⚠ path and filename The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk l images**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```
2 \renewcommand{\pstool@alwaysprocess}[3][]{
3 \begin{lateximage}[-pstool-\~\PackageDiagramAltText]{%
4 \includegraphics{#2.pdf}%
5 }\end{lateximage}%
6 }
7 \LetLtxMacro{\pstool@neverprocess}{\pstool@alwaysprocess}
8 \LetLtxMacro{\pstool@maybeprocess}{\pstool@alwaysprocess}
9
10 \renewcommand{\pstool@@psfragfig}[4]{%
11 \begin{lateximage}[-pstool-\~\PackageDiagramAltText]{%
12 \includegraphics{#2.pdf}%
13 }\end{lateximage}%
14 }
```

---

File 397 **l warp-pstricks.sty**

§ 506 Package **pstricks**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg pstricks pstricks is patched for use by l warp.

⚠ use pspicture All pstricks content should be contained inside a pspicture environment.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

```
2 \BeforeBeginEnvironment{pspicture}{%
3 \begin{lateximage}[pspicture]%
4 }%
5 \AfterEndEnvironment{pspicture}{\end{lateximage}%
6
7 \BeforeBeginEnvironment{pspicture*}{%
8 \begin{lateximage}[pspicture]%
```

```
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}
```

---

File 398 **l warp-pxatbegshi.sty**

§ 507 Package **pxatbegshi**

Pkg pxatbegshi pxatbegshi is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

```
2 \LWR@origRequirePackage{l warp-atbegshi}
```

---

File 399 **l warp-pxeveryshi.sty**

§ 508 Package **pxeveryshi**

Pkg pxeveryshi pxeveryshi is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

```
2 \LWR@origRequirePackage{l warp-everyshi}
```

---

File 400 **l warp-pxfonts.sty**

§ 509 Package **pxfonts**

(Emulates or patches code by YOUNG RYU.)

Pkg pxfonts pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}
```

---

File 401 **l warp-pxftnright.sty**

§ 510 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]  
2 \LWR@origRequirePackage{l warp-ftnright}

---

File 402 **l warp-pxjahyper.sty**

§ 511 Package **pxjahyper**

Pkg pjaxahyper pjaxahyper is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 403 **l warp-quotchap.sty**

§ 512 Package **quotchap**

(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)

Pkg quotchap quotchap is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]  
2 \newcommand{\@quotchap}{}  
3 \newlength{\LWR@quotchapwidth}  
4  
5 \let\@printcites\relax  
6  
7 \newcommand\*{\@iprintcites}{%

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}  
9 %\begin{minipage}{\LWR@quotchapwidth}  
10 \@quotchap  
11 %\end{minipage}  
12 \end{BlockClass}

Deactivate the quote printing:

```
13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:  
<https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment>

```
17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```
19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }
```

The quotation author is placed inside a <div> of class qauthor:

```
22 \newcommand{\qauthor}[1]{%
23 \LWR@stoppars%
24 \begin{BlockClass}{qauthor}%
25 {#1}%
26 \end{BlockClass}%
27 \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```
29 \newcommand{\qsetcnfont}[1]{}
30 \providecommand*\quotefont{}%
31 \providecommand*\qauthorfont{}
```

#### File 404 **l warp-quoting.sty**

### § 513 Package **quoting**

(Emulates or patches code by THOMAS TITZ.)

Pkg quoting **quoting** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```
2 \xpatchcmd{\quoting}{\quo@begintext}
3 {\begin{LWR@blocktextcurrentfont}\quo@begintext}
4 {}
5 {\LWR@patcherror{quoting}{quoting}}
6
```

```
7 \xpatchcmd{\endquoting}{\quo@endtext}
8 {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stopars}
9 {}
10 {\LWR@patcherror{quoting}{endquoting}}
```

---

**File 405 l warp-ragged2e.sty**

§ 514      Package **ragged2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg **ragged2e** **ragged2e** is emulated.

Discard all options for **l warp-ragged2e**:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

```
2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\{justifyin\}{}%
6 \newlength{\CenteringLeftskip}%
7 \newlength{\RaggedLeftLeftskip}%
8 \newlength{\RaggedRightLeftskip}%
9 \newlength{\CenteringRightskip}%
10 \newlength{\RaggedLeftRightskip}%
11 \newlength{\RaggedRightRightskip}%
12 \newlength{\CenteringParfillskip}%
13 \newlength{\RaggedLeftParfillskip}%
14 \newlength{\RaggedRightParfillskip}%
15 \newlength{\JustifyingParfillskip}%
16 \newlength{\CenteringParindent}%
17 \newlength{\RaggedLeftParindent}%
18 \newlength{\RaggedRightParindent}%
19 \newlength{\JustifyingParindent}%
20 \newenvironment*{Center}{\center}{\endcenter}%
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}%
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}%
23 \newenvironment*{justify}{\justify}{\endjustify}
```

---

**File 406 l warp-realscripts.sty**

§ 515      Package **realscripts**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **realscripts** **realscripts** is emulated. See **l warp.css** for the <span> of class supsubscript.

**for HTML output:** 1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

The following are copied verbatim from the original, but given new names, since `xparse` definitions should not be `\let`.

```
2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@print@realsubscript {m} {
5 \fontspec_if_fontspec_font:TF {
6 \fontspec_if_opentype:TF
7 { \fontspec_if_feature:nTF {+subs}
8 { {\addfontfeature{VerticalPosition=Inferior}\#1} }
9 { \fontspec_if_feature:nTF {+sinf}
10 { {\addfontfeature{VerticalPosition=ScientificInferior}\#1} }
11 { \fakesubscript{\#1} }
12 }
13 }
14 { \fontspec_if_aat_feature:nnTF {10} {2}
15 { {\addfontfeature{VerticalPosition=Inferior}\#1} }
16 { \fakesubscript{\#1} }
17 }
18 }
19 { \fakesubscript{\#1} }
20 }
21
22 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
23 \LWR@HTML@textsubscript{\#1}
24 }
25
26 \LWR@formatted{realsubscript}
27
28
29 \DeclareDocumentCommand \LWR@print@realsuperscript {m} {
30 \fontspec_if_fontspec_font:TF
31 {
32 \fontspec_if_opentype:TF
33 { \fontspec_if_feature:nTF {+sups}
34 { {\addfontfeature{VerticalPosition=Superior}\#1} }
35 { \fakesuperscript{\#1} }
36 }
37 { \fontspec_if_aat_feature:nnTF {10} {1}
38 { {\addfontfeature{VerticalPosition=Superior}\#1} }
39 { \fakesuperscript{\#1} }
40 }
41 }
42 { \fakesuperscript{\#1} }
43 }
44
45 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
46 \LWR@HTML@textsuperscript{\#1}
47 }
48
49 \LWR@formatted{realsuperscript}
50
51
52 \DeclareDocumentCommand \LWR@print@textsubsuperscript {s O{l} mm} {
53 \leavevmode
```

```
54 \group_begin:
55 \IfBooleanTF #1
56 {
57 \hbox_set:Nn \l_tmpa_box {\textsubscript*{#3}}
58 \hbox_set:Nn \l_tmpb_box {\textsuperscript*{#4}}
59 }
60 {
61 \hbox_set:Nn \l_tmpa_box {\textsubscript{#3}}
62 \hbox_set:Nn \l_tmpb_box {#4}
63 }
64 \hbox_set:Nn \l_tmpa_box
65 { \box_move_down:nn \subsupersep {\box_use:N \l_tmpa_box} }
66 \hbox_set:Nn \l_tmpb_box
67 { \box_move_up:nn \subsupersep {\box_use:N \l_tmpb_box} }
68 \str_case:nnF {#2}
69 {
70 {l}{\use_i:nnn}
71 {c}{\use_ii:nnn}
72 {r}{\use_iii:nnn}
73 }
74 {
75 \PackageWarning{realscripts}{
76 Unknown~alignment~option~`#2'. \MessageBreak
77 One~ of~ 'l',~ 'c',~ 'r',~ only
78 }
79 \use_i:nnn
80 }
81 {
82 \hbox_overlap_right:n { \box_use:N \l_tmpa_box }
83 \hbox_overlap_right:n { \box_use:N \l_tmpb_box }
84 \skip_horizontal:n {
85 \dim_max:nn { \box_wd:N \l_tmpa_box } { \box_wd:N \l_tmpb_box }
86 }
87 }
88 {
89 \dim_compare:nTF { \box_wd:N \l_tmpa_box > \box_wd:N \l_tmpb_box }
90 {
91 \skip_horizontal:n {
92 0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
93 }
94 \box_use:N \l_tmpb_box
95 \skip_horizontal:n {
96 -0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
97 }
98 \box_use:N \l_tmpa_box
99 }
100 {
101 \skip_horizontal:n {
102 0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
103 }
104 \box_use:N \l_tmpa_box
105 \skip_horizontal:n {
106 -0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
107 }
108 \box_use:N \l_tmpb_box
```

```
109 }
110 }
111 {
112 \skip_horizontal:n {
113 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
114 }
115 \hbox_overlap_left:n { \box_use:N \l_tmpa_box }
116 \hbox_overlap_left:n { \box_use:N \l_tmpb_box }
117 }
118 \group_end:
119 }
120
121 \ExplSyntaxOff
122
123
124 \newcommand*{\LWR@realscriptsalign}{}
125
126 \newcommand*{\LWR@setrealscriptsalign}[1]{%
127 \renewcommand*{\LWR@realscriptsalign}{\%}
128 \ifthenelse{\equal{#1}{c}}{%
129 \renewcommand{\LWR@realscriptsalign}{\%
130 \LWR@print@mbox{text-align:center} ; \%
131 }%
132 }{%
133 \ifthenelse{\equal{#1}{r}}{%
134 \renewcommand{\LWR@realscriptsalign}{\%
135 \LWR@print@mbox{text-align:right} ; \%
136 }%
137 }{%
138 }
139
140 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} m m} {%
141 \LWR@setrealscriptsalign{#2}%
142 \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
143 #4\textsubscript{#3}%
144 }%
145 }
146 \LWR@formatted{textsubsuperscript}
147
148 \FilenameNullify{%
149 \RenewDocumentCommand{\textsuperscript}{s m}{\%}
150 \RenewDocumentCommand{\textsubscript}{s m}{\%}
151 \renewcommand{\fakesubscript}[1]{\%}
152 \renewcommand{\fakesuperscript}[1]{\%}
153 \renewcommand{\realsubscript}[1]{\%}
154 \renewcommand{\realsuperscript}[1]{\%}
155 \renewcommand{\textsubsuperscript}[2]{\%}
156 \renewcommand{\textsupersubscript}[2]{\%}
157 }
```

---

**File 407 l warp-refcheck.sty****§ 516 Package refcheck**

Pkg refcheck refcheck is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```
2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbd{}
9 \def\ignoreunlbd{}
10 \newcommand*\refcheckxrdoc[2][]{}
```

---

**File 408 l warp-register.sty****§ 517 Package register**

(Emulates or patches code by MATTHEW LOVELL.)

Pkg register register is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{register}[2019/01/01]

```
2 \xpatchcmd{\register}{\centering}{%
3 \begin{center}%
4 \begin{ lateximage }[-register-\~\PackageDiagramAltText] %
5 }%
6 {}%
7 {\LWR@patcherror{register}{register}}%
8
9 \xpatchcmd{\endregister}{\leftskip}{%
10 \end{ lateximage }\end{center} %
11 \leftskip%
12 }%
13 {}%
14 {\LWR@patcherror{register}{endregister}}%
15
16 }%
17 {}%
18 {\LWR@patcherror{register}{endregister}}%
19
20 \expandafter\xapptocmd\csname register*\endcsname {
21 {}%
```

---

```

22 \begin{center}%
23 \begin{ lateximage }[-register-\~\PackageDiagramAltText]%
24 }
25 {}
26 {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29 {\leftskip}
30 {%
31 \end{ lateximage }\end{center}%
32 \leftskip%
33 }%
34 {}
35 {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```

---

File 409 **l warp-relsize.sty**

§ 518 Package **relsize**

*(Emulates or patches code by DONALD ARSENAU, BERNIE COSELL, MATT SWIFT.)*

Pkg **relsize** **relsize** is patched for use by **l warp**, and emulated for **MATHJAX**.

For **HTML**, only the inline macros are supported: **\textlarger**, **\textsmaller**, and **\textscale**. Each becomes an inline span of a modified font-size.

**\relsize**, **\larger**, **\smaller**, and **\relscale** are ignored.

While creating **SVG** math for **HTML**, the original definitions are temporarily restored, and so should work as expected.

⚠ **not small** The **HTML** browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:** 1 \LWR@ProvidesPackagePass{relsize}[2013/03/29]

```

2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\relsize\LWR@origrelsize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%

```

```

17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@relsizetemp}
21
22 \renewcommand*\relsize}[1]{}
23 \renewcommand*\larger}[1][{}]
24 \renewcommand*\smaller}[1][{}]
25 \renewcommand*\relscale}[1]{}
26
27 \renewcommand*\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+ (#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textlarger}{#2}%
30 }
31
32 \renewcommand*\textsmaller}[2][1]{%
33 \setcounter{LWR@relsizetemp}{100- (#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*\textscale}[2]{%
38 \setcounter{LWR@relsizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

File 410 **lwarf-repeatindex.sty**

## § 519 Package **repeatindex**

Pkg repeatindex repeatindex is emulated for lwarf.

⚠ style file lwarf must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarf_repeatindex}]{lwarf}
```

where lwarf\_repeatindex.ist may be copied from the following modified version of lwarf.ist:

```

preamble
"\begin{theindex}
\\providecommand*\lettergroupDefault[1]{}
\\providecommand*\lettergroup[1]{%
\\par\\textbf{#1}\\par
\\nopagebreak

```

```

 }
"
headings_flag 1
heading_prefix "
 \\lettergroup{
heading_suffix "}"
delim_0 "], \\hyperindexref{
delim_1 ", \\hyperindexref{
delim_2 ", \\hyperindexref{
delim_n "}, \\hyperindexref{
delim_r "} -- \\hyperindexref{
delim_t "}"

item_0 "\n \\item ["

```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `l warp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```

2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}

```

#### File 411 **l warp-repltext.sty**

#### § 520 Package **repltext**

Pkg `repltext` `repltext` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```

2 \newcommand{\repltext}[2]{#2}
3 \newcommand*{\prevrepl}{}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}

```

#### File 412 **l warp-resizegather.sty**

#### § 521 Package **resizegather**

Pkg `resizegather` `resizegather` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]  
2 \newcommand\*\resizegathersetup[1]{}

---

#### File 413 **l warp-returntogrid.sty**

### § 522 Package **returntogrid**

Pkg **returntogrid** **returntogrid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]  
2 \NewDocumentCommand\returntogrid{ 0 {} }{}  
3 \NewDocumentCommand\returntogridsetup { m } {}  
4 \NewDocumentCommand\showdebugpagegrid {} {}

---

#### File 414 **l warp-rlepsf.sty**

### § 523 Package **rlepsf**

(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)

Pkg **rlepsf** **rlepsf** is patched for use by **l warp**.

⚠ **Rename the style file!** The file **rlepsf.tex** must be copied to **rlepsf.sty** for **l warp** to detect and patch it.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rlepsf}% No date given.  
2 \xpretocmd{\relabelbox}{\begin{ lateximage }}{}{\LWR@patcherror{rlepsf}{relabelbox}}  
3 \xapptocmd{\endrelabelbox}{\end{ lateximage }}{}{\LWR@patcherror{rlepsf}{endrelabelbox}}  
4  
5  
6  
7  
8  
9  
10

---

#### File 415 **l warp-rmathbr.sty**

### § 524 Package **rmathbr**

(Emulates or patches code by DENIS RYABOV.)

Pkg **rmathbr** **rmathbr** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}
```

---

**File 416 l warp-rmpage.sty****§ 525 Package rmpage**

Pkg rmpage rmpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

**File 417 l warp-romanbar.sty****§ 526 Package romanbar**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg romanbar romanbar is patched for use by l warp.

An inline class with an overline and underline is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

```
2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4 text-decoration: overline underline ;
5]{\romanbar}{#1}%
6 }
```

---

**File 418 l warp-romanbarpagenumber.sty****§ 527 Package romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

**File 419 l warp-rotating.sty****§ 528 Package rotating**

(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)

Pkg rotating rotating is emulated.

All rotations are ignored in HTML output.

```
for HTML output: 1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]
 2 \RequirePackage{graphicx}

 3 \LetLtxMacro{\LWR@HTML@sidewaystable}{\table}
 4 \let\endLWR@HTML@sidewaystable\endtable
 5 \LWR@formattedenv{sidewaystable}
 6
 7 \LetLtxMacro{\LWR@HTML@sidewaysfigure}{\figure}
 8 \let\endLWR@HTML@sidewaysfigure\endfigure
 9 \LWR@formattedenv{sidewaysfigure}
 10
 11 \newenvironment*{\LWR@HTML@sideways}{}{}
 12 \LWR@formattedenv{sideways}
 13
 14 \newenvironment*{\LWR@HTML@turn}[1]{}{}
 15 \LWR@formattedenv{turn}
 16
 17 \newenvironment*{\LWR@HTML@rotate}[1]{}{}
 18 \LWR@formattedenv{rotate}
 19
 20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}
 21 \LWR@formatted{turnbox}
 22
 23 \let\LWR@HTML@rotcaption{\caption}
 24 \LWR@formatted{rotcaption}
 25
 26 \let\LWR@HTML@makerotcaption{\makecaption}
 27 \LWR@formatted{@makerotcaption}
```

#### File 420 l warp-rotfloat.sty

### § 529 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg rotfloat rotfloat is emulated.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
 2
 3 \RequirePackage{float}
 4 \RequirePackage{rotating}
```

\newfloat {\langle 1: type \rangle} {\langle 2: placement \rangle} {\langle 3: ext \rangle} [{\langle 4: within \rangle}]

Emulates the \newfloat command from the float package. Sideways floats are \let to the same as regular floats.

“placement” is ignored.

---

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}{%
7 {%
8 \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}{%
9 }{%
10 {%
11 \DeclareFloatingEnvironment[fileext=#3]{#1}{%
12 }{%
13 \csletcs{sideways#1}{#1}{%
14 \csletcs{endsideways#1}{end#1}{%

```

Remember the float style:

```

15 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}{%
16 \csedef{\LWR@floatstyle@sideways#1}{\LWR@floatstyle}{%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```

17 \cslet{\listof#1s}{\relax}{%
18 \cslet{\listof#1es}{\relax}{%
19 \cslet{\listofsideways#1s}{\relax}{%
20 \cslet{\listofsideways#1es}{\relax}{%
21 }

```

---

#### File 421 **l warp-rviewport.sty**

### § 530 Package **rviewport**

Pkg `rviewport` `rviewport` is honored inside a `lateximage`, and otherwise ignored for `HTML` output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{rviewport}[2011/08/27]`

2 `\define@key{igraph}{rviewport}{}{}`

---

#### File 422 **l warp-savetrees.sty**

### § 531 Package **savetrees**

Pkg `savetrees` `savetrees` is ignored.

**for HTML output:** Discard all options for `l warp-savetrees`:

1 `\LWR@ProvidesPackageDrop{savetrees}[2016/04/13]`

---

**File 423 l warp-scalefnt.sty**

§ 532      Package **scalefnt**

*(Emulates or patches code by D. CARLISLE.)*

Pkg scalefnt scalefnt is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{scalefnt}
2 \DeclareRobustCommand\scalefont[1]{}
```

---

**File 424 l warp-scalerel.sty**

§ 533      Package **scalerel**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

Pkg scalerel scalerel is used as-is for SVG math, and is emulated and ignored for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]
```

For MATHJAX:

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][]{\#2}}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][]{\#2\#3}}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][]{\#2}}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][]{\#2\#3}}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][]{\#2}}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][]{\#2}}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][]{\#2\#3\#4}}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][]{\#2\#3\#4}}
15 \CustomizeMathJax{\newcommand{\hstretch}[2][]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2][]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2][]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1][]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]{}}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]{}}
25 \end{warpMathJax}
```

---

**File 425 l warp-schemata.sty**

§ 534      Package **schemata**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

Pkg **schemata** **schemata** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```
2 \LetLtxMacro{\LWR@schemata}{\origschemata}
3 \LetLtxMacro{\LWR@origSchema}{\Schema}
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{ lateximage }[-schemata-\PackageDiagramAltText]%
7 \LWR@print@normalsize%
8 \LWR@schemata{\origschemata[\#1]{\#2}{\#3}}%
9 \end{ lateximage }%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{ lateximage }[-schemata-\PackageDiagramAltText]%
14 \LWR@print@normalsize%
15 \LWR@schemata{\origSchema[\#1]{\#2}{\#3}{\#4}{\#5}}%
16 \end{ lateximage }%
17 }
```

---

**File 426 l warp-scrextend.sty**

§ 535      Package **scrextend**

Pkg **scrextend** **scrextend** is emulated.

This package may be loaded standalone, but is also loaded automatically if *koma-script* classes are in use. *\DeclareDocumentCommand* is used to overwrite the *koma-script* definitions.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

```
2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
```

```
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*{\coverpagetopmargin}{}
14 \providecommand*{\coverpagebottommargin}{}
15 \providecommand*{\coverpageleftmargin}{}
16 \providecommand*{\coverpagerightmargin}{}
17
```

Title page:

```
18 \AtBeginDocument{
19 \let\LWR@koma@orig@maketitle\maketitle
20 \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \providecommand*{\@maketitle}{}
24 \renewrobustcmd{\@maketitle}{%
25 \ifdefvoid{\@titlehead}{%
26 \begin{BlockClass}{titlehead}%
27 \@titlehead%
28 \end{BlockClass}%
29 }%
30 \ifdefvoid{\@subject}{%
31 \begin{BlockClass}{subject}%
32 \@subject%
33 \end{BlockClass}%
34 }%
35 \LWR@stoppars%
36 \LWR@htmlltag{\LWR@tagtitle}%
37 \@title%
38 \LWR@htmlltag{\LWR@tagtitleend}%
39 \ifdefvoid{\@subtitle}{%
40 \begin{BlockClass}{subtitle}%
41 \@subtitle%
42 \end{BlockClass}%
43 }%
44 \LWR@startpars%
45 \begin{BlockClass}{author}%

46 \renewcommand*{\cr}{}%
47 \renewcommand*{\crcr}{}%
48 \renewcommand*{\noalign}{}%

49 \renewcommand{\and}{%
50 \end{BlockClass}%
51 \begin{BlockClass}{oneauthor}%
52 }%
53 \begin{BlockClass}{oneauthor}%
54 \@author%
55 \end{BlockClass}%
56 \end{BlockClass}%
57 \begin{BlockClass}{titledate}%
58 \@date%
59 \end{BlockClass}%
60 \ifdefvoid{\@published}{%
```

```
61 \begin{BlockClass}{published}%
62 \@published%
63 \end{BlockClass}%
64 }%
65 }%
66
67 \AddSubtitlePublished
68
69 \DeclareDocumentCommand{\extratitle}{m}{}
70 \DeclareDocumentCommand{\frontispiece}{m}{}
71
72 \def\@titlehead{}%
73 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{\#1}}%
74
75 \def\@subject{}%
76 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{\#1}}%
77
78 % \subtitle and \published are defined by \AddSubtitlePublished
79
80 \DeclareDocumentCommand{\publishers}{m}{\published{\#1}}
81
82 \DeclareDocumentCommand{\uppertitleback}{m}{}
83 \DeclareDocumentCommand{\lowertitleback}{m}{}
84 \DeclareDocumentCommand{\dedication}{m}{}
85
86 \DeclareDocumentCommand{\ifthispageodd}{m m}{\#1}
87
88 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
89 \DeclareDocumentCommand{\cleardoubleemptypage}{}{%
90 \DeclareDocumentCommand{\cleardoubleplainpage}{}{%
91 \DeclareDocumentCommand{\cleardoublestandardpage}{}{%
92 \DeclareDocumentCommand{\cleardoubleoddpage}{}{%
93 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{%
94 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{%
95 \DeclareDocumentCommand{\cleardoubleoddplainpage}{}{%
96 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{%
97 \DeclareDocumentCommand{\cleardoubleevenpage}{}{%
98 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{%
99 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{%
100 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{%
101 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{%
102
103 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
104 \begingroup\let\thefootnotemark\multfootsep\makefnmark\endgroup
105 }%
106
107 \DeclareDocumentCommand{\multfootsep}{}{,}
108
109 \DeclareDocumentCommand{\footref}{m}{%
110 \begingroup
111 \unrestored@protected@xdef\@thefnmark{\ref{\#1}}%
112 \endgroup
113 \footnotemark
114 }%
115
```

```
116 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
117 \DeclareDocumentCommand{\deffootnotemark}{m}{}
118 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
119 \DeclareDocumentCommand{\raggedfootnote}{}{}

120 \DeclareDocumentCommand{\dictum}{o m}{}
121 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{dictum}
122 #2
123 \IfValueT{#1}
124 {
125 \LWR@stoppars%
126 \ifbool{FormatWP}{
127 \begin{BlockClass}[\LWR@print@mbox{border-top: 1px solid gray}]{dictumauthor}
128 \begin{BlockClass}{dictumauthor}
129 \dictumauthorformat{#1}
130 \end{BlockClass}
131 }
132 \end{BlockClassWP}
133 }
134
135 \DeclareDocumentCommand{\dictumwidth}{}{}
136 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
137 \DeclareDocumentCommand{\dictumrule}{}{}
138 \DeclareDocumentCommand{\raggeddictum}{}{}
139 \DeclareDocumentCommand{\raggeddictumtext}{}{}
140 \DeclareDocumentCommand{\raggeddictumauthor}{}{}
141
142 \DeclareDocumentEnvironment{labeling}{o m}
143 {
144 \def\sc@septext{#1}%
145 \list{}{}%
146 \let\makelabel\labelinglabel%
147 }
148 {
149 \endlist
150 }
151
152 \DeclareDocumentCommand{\labelinglabel}{m}{%
153 #1 \qquad \sc@septext%
154 }
155
156 \let\addmargin\relax
157 \let\endaddmargin\relax
158 \cslet{addmargin*}{\relax}
159 \cslet{endaddmargin*}{\relax}

160 \NewDocumentEnvironment{addmargin}{s O{} m}
161 {
162 \LWR@stoppars%
163 \setlength{\LWR@templengthtwo}{#3}
164 \ifblank{#2}
165 {
166 \begin{BlockClass}[
167 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
```

---

```

168 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
169]{addmargin}
170 }
171 {
172 \setlength{\LWR@templengthone}{#2}
173 \begin{BlockClass}[
174 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
175 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
176]{addmargin}
177 }
178 }
179 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

180
181 \ExplSyntaxOn
182 \cs_new:cpx {addmargin*} {\addmargin*}
183 \cs_new_eq:cN {endaddmargin*} \endaddmargin
184 \ExplSyntaxOff
185
186 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

#### File 427 **l warp-scrhack.sty**

§ 536 Package **scrhack**

Pkg **scrhack** **scrhack** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

---

#### File 428 **l warp-scrlayer.sty**

§ 537 Package **scrlayer**

(Emulates or patches code by MARKUS KOHM.)

Pkg **scrlayer** **scrlayer** is emulated.

**⚠ Not fully tested!** Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*{\DeclareSectionNumberDepth}[2]{}
3 \newcommand*{\DeclareLayer}[2][]{}
4 \newcommand*{\DeclareNewLayer}[2][]{}
5 \newcommand*{\ProvideLayer}[2][]{}

```

```
6 \newcommand{\RedeclareLayer}[2][]{}
7 \newcommand{\ModifyLayer}[2][]{}
8 \newcommand{\layerhalign}={}
9 \newcommand{\layervalign}={}
10 \newcommand{\layerxoffset}={}
11 \newcommand{\layeryoffset}={}
12 \newcommand{\layerwidth}={}
13 \newcommand{\layerheight}={}
14 \providecommand{\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@\/\unitlength}
15 \newcommand{\putUL}[1]{}
16 \newcommand{\putUR}[1]{}
17 \newcommand{\putLL}[1]{}
18 \newcommand{\putLR}[1]{}
19 \newcommand{\putC}[1]{}
20 \newcommand{\GetLayerContents}[1]{}
21 \newcommand{\IfLayerExists}[3]{#3}
22 \newcommand{\DestroyLayer}[1]{}
23 \newcommand{\layercontentsmeasure}={}
24 \newcommand{\currentpagestyle}={}
25 \newcommand{\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand{\AfterSelectAnyPageStyle}[1]{}
27 \newcommand{\DeclarePageStyleAlias}[2]{}
28 \newcommand{\DeclareNewPageStyleAlias}[2]{}
29 \newcommand{\ProvidePageStyleAlias}[2]{}
30 \newcommand{\RedeclarePageStyleAlias}[2]{}
31 \newcommand{\DestroyPageStyleAlias}[1]{}
32 \newcommand{\GetRealPageStyle}[1]{}
33 \newcommand{\DeclarePageStyleByLayers}[3][]{}
34 \newcommand{\DeclareNewPageStyleByLayers}[3][]{}
35 \newcommand{\ProvidePageStyleByLayers}[3][]{}
36 \newcommand{\RedeclarePageStyleByLayers}[3][]{}
37 \NewDocumentCommand{\ForEachLayerOfPageStyle}{s m m} {}
38 \newcommand{\AddLayersToPageStyle}[2]{}
39 \newcommand{\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand{\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand{\RemoveLayersFromPageStyle}[2]{}
42 \newcommand{\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand{\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand{\UnifyLayersAtPageStyle}[1]{}
45 \newcommand{\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand{\AddToLayerPageStyleOptions}[2]{}
47 \newcommand{\IfLayerPageStyleExists}[3]{#3}
48 \newcommand{\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand{\IfLayerAtPageStyle}[4]{#4}
50 \newcommand{\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand{\IfLayersAtPageStyle}[4]{#4}
52 \newcommand{\DestroyRealLayerPageStyle}[1]{}
53 @ifundefined{fooheight}{\newlength\fooheight}{}
54 \DeclareDocumentCommand{\automark}{s o m} {}
55 \DeclareDocumentCommand{\manualmark}{}{}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand{\partmarkformat}){}
58 \if@chapter
59 \newcommand{\chaptermarkformat}{}{}
```

```
60 \fi
61 \newcommand{\sectionmarkformat}{}
62 \DeclareDocumentCommand{\GenericMarkFormat}{m}{}

63 \newcommand*{\@mkleft}[1]{}
64 \newcommand*{\@mkright}[1]{}
65 \newcommand*{\@mkdouble}[1]{}
66 \newcommand*{\@mkboth}[2]{}
67 \newcommand*{\scrlayerInitInterface}[1][]{}
68 \newcommand{\scrlayerAddToInterface}[3][]{}
69 \newcommand{\scrlayerAddCsToInterface}[3][]{}
70 \newcommand{\scrlayerOnAutoRemoveInterface}[2][]{}
```

---

**File 429 l warp-scrlayer-notecolumn.sty****§ 538 Package scrlayer-notecolumn**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-notecolumn scrlayer-notecolumn is emulated.

⚠ Not fully tested! Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

```
2 \newcommand*{\DeclareNoteColumn}[2][]{}
3 \newcommand*{\DeclareNewNoteColumn}[2][]{}
4 \newcommand*{\ProvideNoteColumn}[2][]{}
5 \newcommand*{\RedeclareNoteColumn}[2][]{}
6 \NewDocumentCommand{\makernote}{s o m}{\marginpar{\#3}}
7 \newcommand*{\syncwithnotecolumn}[1][]{}
8 \newcommand*{\syncwithnotecolumns}[1][]{}
9 \newcommand*{\clearnotecolumn}[1][]{}
10 \newcommand*{\clearnotecolumns}[1][]{}
```

---

**File 430 l warp-scrlayer-scrpage.sty****§ 539 Package scrlayer-scrpage**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-scrpage scrlayer-scrpage is ignored.

⚠ Not fully tested! Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

```
2 \@ifundefined{fooheight}{\newlength\fooheight}{}
3 \NewDocumentCommand{\lehead}{s o m}{}
```

```
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\ceffoot}{s o m}{}
11 \NewDocumentCommand{\refoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}
16 \NewDocumentCommand{\chead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\tfoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*{\manualmark}{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \ DeclareRobustCommand{\pagemark}{\pnumfont{\thepage}})%

27 \newcommand*{\defpairofpagestyles}[3][]{
28 \newcommand*{\newpairofpagestyles}[3][]{
29 \newcommand*{\renewpairofpagestyles}[3][]{
30 \newcommand*{\providepairofpagestyles}[3][]{

31 \newcommand*{\clearmainofpairofpagestyles}{}
32 \newcommand*{\clearplainofpairofpagestyles}{}
33 \newcommand*{\clearpairofpagestyles}{}
34 \newcommand*{\clearscrheadings}{}
35 \newcommand*{\clearscrheadfoot}{}
36 \newcommand*{\clearscrplain}{}

37 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
38 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
39 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
40 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m m}{}
41 \newcommand*{\defpagestyle}[3]{}
42 \newcommand*{\newpagestyle}[3]{}
43 \newcommand*{\providepagestyle}[3]{}
44 \newcommand*{\renewpagestyle}[3]{}
```

---

File 431 **l warp-scrpage2.sty**

§ 540 Package **scrpage2**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrpage2 scrpage2 is ignored.

⚠ Not fully tested! Please send bug reports!

for HTML output:

```
1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

2 \@ifundefined{fooheight}{\newlength\fooheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\ceffoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m m}{}
29 \newcommand{\partmarkformat}{}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}{}
34 \newcommand{\subsectionmarkformat}{}{}
35 \newcommand{\subsubsectionmarkformat}{}{}
36 \newcommand{\paragraphmarkformat}{}{}
37 \newcommand{\ subparagraphmarkformat}{}{}
38
39 \newcommand*{\clearscrheadings}{}{}
40 \newcommand*{\clearscrheadfoot}{}{}
```

```
41 \newcommand*{\clearscrplain}{}{}
```

---

File 432 **l warp-section.sty**

§ 541 Package **section**

Pkg section **section** is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

for HTML output:

```
1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsizes{\huge}\else
4 \def\chsize{\huge}\def\hdsizes{\Huge}
5 \fi
6 \let\ttsize\LARGE
7 \let\ausize\large
8 \let\dasize\large
9 \let\secsize\Large
10 \let\subsize\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpiind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase
21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newdimen\subindent
28 \newskip\subpreskp
29 \newskip\subpstskp
30 \newskip\parpstskp
31 \newcount\c@hddepth
32 \fi
33 \fi
```

---

File 433 **l warp-sectionbreak.sty**

§ 542 Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg sectionbreak sectionbreak is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12
```

---

File 434 **l warp-sectsty.sty**

§ 543 Package **sectsty**

(Emulates or patches code by ROWLAND McDONNELL.)

Pkg sectsty sectsty is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]
```

```
2 \newcommand*\partfont{} [1] {}
3 \newcommand*\partnumberfont{} [1] {}
4 \newcommand*\parttitlefont{} [1] {}
5 \newcommand*\chapterfont{} [1] {}
6 \newcommand*\chaptnumberfont{} [1] {}
7 \newcommand*\chapttitlefont{} [1] {}
8 \newcommand*\sectionfont{} [1] {}
9 \newcommand*\subsectionfont{} [1] {}
10 \newcommand*\subsubsectionfont{} [1] {}
11 \newcommand*\paragraphfont{} [1] {}
12 \newcommand*\subparagraphfont{} [1] {}
13 \newcommand*\minisecfont{} [1] {}
14 \newcommand*\allsectionsfont{} [1] {}
15 \newcommand\nohang{}}
```

\sectionrule is only to be used in \*font commands, thus it is ignored.

```
16 \newcommand*\sectionrule[5] {}
17
18 \def\ulemheading#1#2{}
```

---

File 435 **lwarp-selectp.sty**

§ 544 Package **selectp**

Pkg selectp **selectp** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp} no date given  
2 \newcommand\*\{\outputonly}[1]{}

---

File 436 **lwarp-semantic-markup.sty**

§ 545 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup **semantic-markup** is patched for use by **lwarp**.

 If using the `endnotes` option, add `\theendnotes` where desired.

**for HTML output:** 1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

The `endnotes` must be printed by the user before the end of the document, since the end is after the `HTML` footer, etc.

```
2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4 \let\footnote=\endnote
5 \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi
```

HTML unicode characters from `musicography` are used.

```
8 \RequirePackage{musicography}
9
10 \let\f\musFlat
11 \let\s\musSharp
12 \let\n\musNatural
```

The `\musfig` is placed inside a hashed image, with a simple `alt` tag.

```
13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{m m }{%
16 \LWR@subsingleollar*%
17 {\#1/\#2}\% alt tag}
```

```

18 {musfig}%
19 addl' hashing
20 {%
21 \LWR@origensuredmath{%
22 \genfrac{}{}{0pt}{1}{\text{\#1}}{\text{\#2}}%
23 }%
24 }%
25 }

```

The `\meter` is taken from `musicography`, and becomes a hashed image with a simple `alt` tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26 \musMeter{\#1}{\#2}%
27 }

```

#### File 437 **l warp-seqsplit.sty**

### § 546 Package **seqsplit**

*(Emulates or patches code by BORIS VEYTSMAN.)*

Pkg `seqsplit` `seqsplit` is patched for use by `l warp`.

For HTML output, the results are similar to print mode, and respond to window size.

⚠ **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a `minipage`, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** 1 `\LWR@ProvidesPackagePass[seqsplit][2006/08/07]`

Special handling because `l warp` uses a box for SVG math, which does not normally allow line breaks, so a print-mode `minipage` must be used to allow line breaks. The `minipage` will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro{\LWR@orig@seqsplit}{\seqsplit}
4
5 \renewcommand*{\seqsplit}[1]{%
6 \ifmmode%
7 \begin{LWR@print@minipage}{6in}%
8 \LWR@orig@seqsplit{\#1}%
9 \end{LWR@print@minipage}%
10 \else%
11 \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{\#1}}%
12 \fi
13 }

```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```
14 \AtBeginDocument{
15 \newcommand*{\LWR@HTML@seqinsert}{%
16 \LWR@htmlcomment{ }%
17 }
18 \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}
```

---

**File 438 l warp-setspace.sty****§ 547 Package setspace**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg setspace setspace is emulated.

Discard all options for l warp-setspace:

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*{\setstretch}[1]{}
4 \newcommand*{\SetSinglespace}[1]{}
5 \newcommand*{\singlespacing}{}
6 \newcommand*{\onehalfspacing}{}
7 \newcommand*{\doublespacing}{}
8
9 \newenvironment*{singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment*{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}
22
23 \newenvironment*{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment*{onehalfspace}
30 {
31 \LWR@forcenewpage
```

```
32 \BlockClass{onehalfspace}
33 }
34 {\endBlockClass}
35
36 \newenvironment*{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}
```

---

**File 439 l warp-shadethm.sty****§ 548 Package shadethm**

(Emulates or patches code by JIM HEFFERON.)

Pkg shadethm shadethm is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

```
2 \newenvironment{\LWR@HTML@shadebox}
3 {%
4 \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5 \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6 \begin{BlockClass}[%]
7 background: \LWR@origpound\LWR@tempcolor ;
8 border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9]{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}
```

---

**File 440 l warp-shadow.sty****§ 549 Package shadow**

(Emulates or patches code by MAURO ORLANDINI.)

Pkg shadow shadow is emulated.

**for HTML output:** Discard all options for l warp-shadow:

```
1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
```

```
7 \InlineClass{shabox}{#1}%
8 }
```

---

File 441 **l warp-shapepar.sty**

§ 550 Package **shapepar**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg shapepar shapepar is patched for use by l warp. Shapes appear in print mode, as well as inside a `\textrimage`, but are ignored for HTML.

for HTML output: 1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

```
2 \newcommand*{\LWR@HTML@shapepar}[2][]{}
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}
```

---

File 442 **l warp-showidx.sty**

§ 551 Package **showidx**

Pkg showidx showidx is ignored.

for HTML output: Discard all options for l warp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
```

\@wrindex is redefined \AtBeginDocument by the l warp core.

---

File 443 **l warp-showkeys.sty**

§ 552 Package **showkeys**

(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)

Pkg showkeys showkeys is ignored.

for HTML output: Discard all options for l warp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
```

```
2 \NewDocumentCommand{\showkeys}{s}{}{}
```

---

**File 444 l warp-showtags.sty****§ 553 Package shuffle**

Pkg showtags showtags is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{showtags}%
 no version is given
2 \newcommand{\thecitetag}[1]{}
```

---

**File 445 l warp-shuffle.sty****§ 554 Package shuffle**

(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)

Pkg shuffle shuffle is emulated for SVG math, and also emulated for MATHJAX.

The font used for shuffle may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for \cshuffle a \bar is added.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
 2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
 3 \newcommand*\LWR@shuffle@start{%
 4 \hspace*{.2em}
 5 \begin{picture}(.75,0.65)
 6 \setlength{\unitlength}{1em}
 7 \put(0,0){\line(1,0){.75}}
 8 \put(0,0){\line(0,1){.5}}
 9 \put(.375,0){\line(0,1){.5}}
10 \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*\LWR@shuffle@finish{%
14 \end{picture}
15 \hspace*{.75em}
16 \hspace*{.2em}
17 }
18
19 \newcommand*\cshuffle{%
20 \LWR@shuffle@start%
21 \LWR@shuffle@finish%
22 }
23
24 \newcommand*\cshuffle{%
```

---

```

25 \LWR@shuffle@start%
26 \put(.05,.65){\line(1,0){.65}}%
27 \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\text{\scriptsize\texttt{\LWR@shuffle}}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32 \mathbin{\text{\LWR@overlaysymbols{\raise{.6ex}{-}}{\text{\scriptsize\texttt{\LWR@shuffle}}}}}}
33 }%
34 \end{warpMathJax}

```

---

File 446 **l warp-sidecap.sty**

§ 555      Package **sidecap**

*(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)*

- Pkg sidecap sidecap is emulated.  
**for HTML output:** Discard all options for l warp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

[http://tex.stackexchange.com/questions/45401/  
use-the-s-star-argument-with-newdocumentenvironment](http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment)  
 regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{SCtable}{soo}
3 {\IfValueTF{#3}{\table[#3]}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpx {SCtable*} {\SCtable*}
8 \cs_new_eq:cN {endSCtable*} \endSCtable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpx {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

---

File 447 **l warp-sidenotes.sty**

§ 556 Package **sidenotes**

*(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)*

Pkg sidenotes Patched for l warp.

for HTML output: Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with l warp.

An ARIA note role is not assigned since the caption is an important part of the figure.

```
\sidecaption * [<entry>] [<offset>] {<text>}
 2 \RenewDocumentCommand \sidecaption {s o o m}
 3 {
 4 \LWR@stoppars
 5 \begingroup
 6 \captionsetup{style=sidecaption}%
 7 \IfBooleanTF{#1}
 8 { % starred
 9 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
10 \caption*{#4}%
11 \end{BlockClass}
12 }
13 { % unstarred
14 \IfNoValueOrEmptyTF{#2}
15 { \def\@sidenotes@sidenote@tov{#4}%
16 { \def\@sidenotes@sidenote@tov{#2}%
17 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
18 \caption[\@sidenotes@sidenote@tov]{#4}%
19 \end{BlockClass}
20 }
21 \endgroup
22 \LWR@startpars
23 }
```

Borrowed from the l warp version of keyfloat:

```
24 \NewDocumentEnvironment{KFLTsidenotes@marginfloat}{O{-1.2ex} m}
25 {%
26 \start
27 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
28 \renewcommand*\@capttype{#2}%
29 {%
30 \endLWR@BlockClassWP%
31 }
```

```

32
33 \RenewDocumentEnvironment{marginfigure}{o}
34 { \begin{KFLT}sidenotes@marginfloat}{\end{KFLT}sidenotes@marginfloat}
35 { \end{KFLT}sidenotes@marginfloat}
36
37 \RenewDocumentEnvironment{margintable}{o}
38 { \begin{KFLT}sidenotes@marginfloat}{\end{KFLT}sidenotes@marginfloat}
39 { \end{KFLT}sidenotes@marginfloat}

```

The following were changed by `sidenotes`, and now are reset back to their `l warp`-supported originals:

Restoring the definition from the  $\text{\LaTeX}2\epsilon$  `article.cls` source:

```

40 \renewenvironment{figure*}
41 {\@dblfloaat{figure}}
42 {\end@dblfloaat}
43
44 \renewenvironment{table*}
45 {\@dblfloaat{table}}
46 {\end@dblfloaat}

```

For **MATHJAX**:

⚠ Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{\sidenote}
49 \appto{\LWR@syncnotenumbers}{\LWR@syncconenumber{\LWR@sidenote}{\thesidenote}}
50 \appto{\LWR@syncnotenames}{\LWR@syncconenotename{\LWR@sidenote}{\sidenotename}}
51 \CustomizeMathJax{\def{\LWR@sidenote{1}}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWR@sidenote]{{}^{\mathrm{\#1}}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWR@sidenote]{{}^{\mathrm{\#1}}}}
```

File 448 **l warp-simplebnf.sty**

§ 557      Package **simplebnf**

(Emulates or patches code by JAY LEE.)

Pkg `simplebnf` `simplebnf` is patched for use by `l warp`.

for HTML output: 1 `\LWR@ProvidesPackagePass{simplebnf}[2020/09/01]`

The entire object is placed inside a `\teximage` whose `alt` text is the L<sup>A</sup>T<sub>E</sub>X source BNF expression.

```
2 \ExplSyntaxOn
3
4 \RenewDocumentEnvironment { bnfgrammar } { +b }
5 {
6 %% \l__input_seq is a list of term definitions.
7 \regex_split:nnN { ;; } { #1 } \l__input_seq
8 \begin{center}
9 \begin{\teximage}[\#1]%
10 \tl_set:Nn \l__table_tl
11 {
12 \begin{tabular}{lcll}
13 }
14 \bool_set_true:N \l_tmp_first_term % Is this the first term in this grammar?
15 \seq_map_inline:Nn \l__input_seq
16 {
17 %% \l__term_seq - (term, rhses)...
18 %% \l__term_tl - term
19 %% \l__keypairs_tl - rhses
20 \regex_split:nnN { ::= } { ##1 } \l__term_seq
21 \seq_pop_left:NN \l__term_seq \l__term_tl
22 \seq_pop_left:NN \l__term_seq \l__keypairs_tl
23
24 \regex_replace_once:nnN { ^\s+ } {} \l__term_tl
25
26 \bool_if:NTF \l_tmp_first_term
27 {
28 \bool_set_false:N \l_tmp_first_term
29 }
30 {
31 \tl_put_right:Nn \l__table_tl { \\ }
32 }
33 \tl_put_right:Nx \l__table_tl
34 {
35 \bnfexpr { \l__term_tl } & \g__simplebnf_defeq_tl &
36 }
37 %% \l__keypairs_seq - (rhs:annot | rhs)...
38 \seq_set_split:NnV \l__keypairs_seq { | } \l__keypairs_tl
39
40 \bool_set_true:N \l__first_rhs
41 \seq_map_function:NN \l__keypairs_seq \simplebnf_typeset_rhs:n
42 }
43
44 \tl_put_right:Nn \l__table_tl { \end{tabular} }
45 \tl_use:N \l__table_tl
46 \end{\teximage}%
47 \end{center}
48 }
49 { }
50
51 \ExplSyntaxOff
```

---

**File 449 l warp-SIunits.sty**

§ 558      Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

Pkg Slunits Slunits is patched for use by l warp.

For SVG math, it is recommended to use \unit where possible, which combines the entire expression into a single `\teximage`, and adds the `alt` tag containing the L<sup>A</sup>T<sub>E</sub>X code, allowing for copy/paste. When units are used outside of the \unit macro, each unit macro will have its own `\teximage`, and each will have the `alt` tag set according to \MathImageAltText, which defaults to (math image).

For MATHJAX, individual units used in text will appear as SVG images, since \ensuremath is used in the original definitions, and \ensuremath often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, \unit is used, the result is expressed with MATHJAX instead of an SVG image.

**for HTML output:** 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML alt tag:

```
2 \ifbool{mathjax}{%
3 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4 \LWR@subsingle$*% l warp
5 {%
6 \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
7 \{ \LWR@HTMLsanitize{\#2}\}% extra space
8 }%
9 {SIunits}% add'l hashing
10 {%
11 \#1\,\{\#2\}%
12 }% contents
13 }
14 }{% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16 @inunitcommandtrue% original
17 \LWR@subsingle$*% l warp
18 {%
19 \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
20 \{ \LWR@HTMLsanitize{\#2}\}% extra space
21 }%
22 {SIunits}% add'l hashing
23 {%
24 \LWR@origensuredmath{%
25 \SI@fstyle{%
26 {\#1}\@qsk\period@active{\#2}%
27 }% original
28 }%
29 }% contents
}
```

```
30 \@inunitcommandfalse% original
31 }
32 }% not MathJax
33 \LWR@formatted{unit}
```

For MATHJAX:

```
34 \begin{warpMathJax}
35 \LWR@infoprocessingmathjax{SIunits}
36
37 \CustomizeMathJax{\newcommand{\one}{}}
38 \CustomizeMathJax{\newcommand{\meter}{\metre}}
39 \CustomizeMathJax{\newcommand{\deka}{\deca}}
40 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
41 \CustomizeMathJax{\newcommand{\per}{/}}
42 \CustomizeMathJax{\newcommand{\usk}{\;}}
43 \CustomizeMathJax{\newcommand{\unit}[2]{\#1\,,\#2}}
44 \CustomizeMathJax{\newcommand{\power}[2]{\#1^{\#2}}}
45
46 \AtBeginDocument{%
47 \if@redefsquare
48 \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
49 \else
50 \if@defsquaren
51 \CustomizeMathJax{\newcommand{\squaren}[1]{\power{\#1}{2}}}
52 \else
53 \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
54 \fi %\if@defsquaren
55 \fi %\if@redefsquare
56 } %\AtBeginDocument
57
58 \CustomizeMathJax{\newcommand{\squared}{^{\{2\}}}}
59 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{\#1}{3}}}
60 \CustomizeMathJax{\newcommand{\cubed}{^{\{3\}}}}
61 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{\#1}{4}}}
62 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{\#1}{-1}}}
63 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
64 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{\#1}{-2}}}
65 \CustomizeMathJax{\newcommand{\rpsquared}{^{\{-2\}}}}
66 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{\#1}{-3}}}
67 \CustomizeMathJax{\newcommand{\rcubed}{^{\{-3\}}}}
68 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{\#1}{-4}}}
69 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
70 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
71 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
72 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
73 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
74 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
75 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}{\mathrm{b5}}}
76 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
77 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
78 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
79 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
80 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
81 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
```

```
82 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
83 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
84 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
85 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
86 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
87 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
88 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
89 \CustomizeMathJax{\newcommand{\yoctod}{\mathrm{10}^{-24}}}
90 \CustomizeMathJax{\newcommand{\zeptod}{\mathrm{10}^{-21}}}
91 \CustomizeMathJax{\newcommand{\attod}{\mathrm{10}^{-18}}}
92 \CustomizeMathJax{\newcommand{\femtod}{\mathrm{10}^{-15}}}
93 \CustomizeMathJax{\newcommand{\picod}{\mathrm{10}^{-12}}}
94 \CustomizeMathJax{\newcommand{\nanod}{\mathrm{10}^{-9}}}
95 \CustomizeMathJax{\newcommand{\microd}{\mathrm{10}^{-6}}}
96 \CustomizeMathJax{\newcommand{\millid}{\mathrm{10}^{-3}}}
97 \CustomizeMathJax{\newcommand{\centid}{\mathrm{10}^{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\mathrm{10}^{-1}}}
99 \CustomizeMathJax{\newcommand{\decad}{\mathrm{10}^{1}}}
100 \CustomizeMathJax{\newcommand{\hectod}{\mathrm{10}^{2}}}
101 \CustomizeMathJax{\newcommand{\kilod}{\mathrm{10}^{3}}}
102 \CustomizeMathJax{\newcommand{\megad}{\mathrm{10}^{6}}}
103 \CustomizeMathJax{\newcommand{\gigad}{\mathrm{10}^{9}}}
104 \CustomizeMathJax{\newcommand{\terad}{\mathrm{10}^{12}}}
105 \CustomizeMathJax{\newcommand{\petad}{\mathrm{10}^{15}}}
106 \CustomizeMathJax{\newcommand{\exad}{\mathrm{10}^{18}}}
107 \CustomizeMathJax{\newcommand{\zettad}{\mathrm{10}^{21}}}
108 \CustomizeMathJax{\newcommand{\yottad}{\mathrm{10}^{24}}}
109 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kilo}\mathrm{g}}}
112 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
113 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
114 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
115 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
116 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
117 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
118 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
119 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
120 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
121 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
122 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
123 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
124 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
125 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
126 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
127 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
128 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
129 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
130 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
131 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
132 \CustomizeMathJax{\newcommand{\degreecelcius}{\mathrm{\text{u}2103}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{degree}\mathrm{celsius}}}
134 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
135 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
136 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
```

```
137 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}}
138 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}}
139
140 \ifdef{\radianbase}{%
141 \CustomizeMathJax{\newcommand{\radianbase}{%
142 {\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{metre}}}}}
143 \CustomizeMathJax{\newcommand{\steradianbase}{%
144 {\mathrm{squaremetre}\mathrm{usk}\mathrm{rpsquare}\mathrm{metre}}}}}
145 \CustomizeMathJax{\newcommand{\hertzbase}{%
146 {\mathrm{reciprocal}\mathrm{second}}}}}
147 \CustomizeMathJax{\newcommand{\newtonbase}{%
148 {\mathrm{metre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}}
149 \CustomizeMathJax{\newcommand{\pascalbase}{%
150 {\mathrm{reciprocal}\mathrm{metre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}}
151 \CustomizeMathJax{\newcommand{\joulebase}{%
152 {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}}
153 \CustomizeMathJax{\newcommand{\wattbase}{%
154 {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpcubic}\mathrm{second}}}}}
155 \CustomizeMathJax{\newcommand{\coulombbase}{%
156 {\mathrm{ampere}\mathrm{usk}\mathrm{second}}}}}
157 \CustomizeMathJax{\newcommand{\voltbase}{%
158 {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpcubic}\mathrm{second}\mathrm{usk}\mathrm{reciprocal}\mathrm{ampere}}}}}
159 \CustomizeMathJax{\newcommand{\faradbase}{%
160 {\mathrm{rpsquare}\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{usk}\mathrm{fourth}\mathrm{second}\mathrm{usk}\mathrm{ampere}\mathrm{squared}}}}}
161 \CustomizeMathJax{\newcommand{\ohmbase}{%
162 {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{rpcubic}\mathrm{second}\mathrm{usk}\mathrm{rpsquare}\mathrm{ampere}}}}}
163 \CustomizeMathJax{\newcommand{\siemensbase}{%
164 {\mathrm{rpsquare}\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{usk}\mathrm{cubic}\mathrm{second}\mathrm{usk}\mathrm{ampere}\mathrm{squared}}}}}
165 \CustomizeMathJax{\newcommand{\weberbase}{%
166 {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}\mathrm{usk}\mathrm{reciprocal}\mathrm{ampere}}}}}
167 \CustomizeMathJax{\newcommand{\teslabase}{%
168 {\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}\mathrm{usk}\mathrm{reciprocal}\mathrm{ampere}}}}}
169 \CustomizeMathJax{\newcommand{\henrybase}{%
170 {\mathrm{squaremetre}\mathrm{usk}\mathrm{kilogram}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}\mathrm{usk}\mathrm{rpsquare}\mathrm{ampere}}}}}
171 \CustomizeMathJax{\newcommand{\celsiusbase}{%
172 {\mathrm{kelvin}}}}}
173 \CustomizeMathJax{\newcommand{\lumenbase}{%
174 {\mathrm{candela}\mathrm{usk}\mathrm{squaremetre}\mathrm{usk}\mathrm{rpsquare}\mathrm{metre}}}}}
175 \CustomizeMathJax{\newcommand{\luxbase}{%
176 {\mathrm{candela}\mathrm{usk}\mathrm{squaremetre}\mathrm{usk}\mathrm{rpfourth}\mathrm{metre}}}}}
177 \CustomizeMathJax{\newcommand{\becquerelbase}{%
178 {\mathrm{hertzbase}}}}}
179 \CustomizeMathJax{\newcommand{\graybase}{%
180 {\mathrm{squaremetre}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}}}
181 \CustomizeMathJax{\newcommand{\sievertbase}{%
182 {\mathrm{graybase}}}}}
183 \CustomizeMathJax{\newcommand{\katalbase}{%
184 {\mathrm{rp}\mathrm{second}\mathrm{usk}\mathrm{mole } }}}}
185 }{}}
186
187 \ifdef{\derradian}{%
188 \CustomizeMathJax{\newcommand{\derradian}{%
189 {\mathrm{metre}\mathrm{usk}\mathrm{reciprocal}\mathrm{metre}}}}}
190 \CustomizeMathJax{\newcommand{\dersteradian}{%
191 {\mathrm{squaremetre}\mathrm{usk}\mathrm{rpsquare}\mathrm{metre}}}}}
```

```
192 \CustomizeMathJax{\newcommand{\derhertz}%
193 {\reciprocal\second}}
194 \CustomizeMathJax{\newcommand{\dernewton}%
195 {\metre\usk\kilogram\usk\second\rpsquared}}
196 \CustomizeMathJax{\newcommand{\derpascal}%
197 {\newton\usk\rpsquare\metre}}
198 \CustomizeMathJax{\newcommand{\derjoule}%
199 {\newton\usk\metre}}
200 \CustomizeMathJax{\newcommand{\derwatt}%
201 {\joule\usk\reciprocal\second}}
202 \CustomizeMathJax{\newcommand{\dercoulomb}%
203 {\ampere\usk\second}}
204 \CustomizeMathJax{\newcommand{\dervolt}%
205 {\watt\usk\reciprocal\ampere}}
206 \CustomizeMathJax{\newcommand{\derfarad}%
207 {\coulomb\usk\reciprocal\volt}}
208 \CustomizeMathJax{\newcommand{\derohm}%
209 {\volt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\dersiemens}%
211 {\ampere\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derweber}%
213 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dertesla}%
215 {\weber\usk\rpsquare\metre}}
216 \CustomizeMathJax{\newcommand{\derhenry}%
217 {\weber\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\dercelsius}%
219 {\kelvin}}
220 \CustomizeMathJax{\newcommand{\derlumen}%
221 {\candela\usk\steradian}}
222 \CustomizeMathJax{\newcommand{\derlux}%
223 {\lumen\usk\rpsquare\metre}}
224 \CustomizeMathJax{\newcommand{\derbecquerel}%
225 {\derhertz}}
226 \CustomizeMathJax{\newcommand{\dergray}%
227 {\joule\usk\reciprocal\kilogram}}
228 \CustomizeMathJax{\newcommand{\dersievert}%
229 {\dergray}}
230 \CustomizeMathJax{\newcommand{\derkatal}%
231 {\katalbase}}
232 }{ }
233
234 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
235 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
236 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\paminute}{^{\prime}}}
239 \CustomizeMathJax{\newcommand{\arcminute}{^{\prime\prime}}}
240 \CustomizeMathJax{\newcommand{\pasecond}{^{\prime\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{^{\prime\prime\prime}}}
242 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
243 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
245 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
246 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
```

```
247 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
248 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
249 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
250 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rad}}}
251 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
252 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
253 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
254 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
255 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
257 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
258 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{hecto}\mathrm{are}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\mathrm{per}\mathrm{minute}}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\mathrm{per}\mathrm{second}}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\mathrm{metre}^2}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\mathrm{cubic}\mathrm{metre}}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\mathrm{gray}\mathrm{per}\mathrm{second}}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\mathrm{gray}\mathrm{usk}\mathrm{reciprocal}\mathrm{second}}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\mathrm{metre}\mathrm{per}\mathrm{second}\mathrm{squared}}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\mathrm{metre}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\mathrm{joule}\mathrm{per}\mathrm{mole}}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\mathrm{joule}\mathrm{usk}\mathrm{reciprocal}\mathrm{mole}}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mathrm{mole}\mathrm{per}\mathrm{cubic}\mathrm{metre}}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mathrm{mole}\mathrm{usk}\mathrm{rpcubic}\mathrm{metre}}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\mathrm{radian}\mathrm{per}\mathrm{second}\mathrm{squared}}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\mathrm{radian}\mathrm{usk}\mathrm{second}\mathrm{rpsquared}}}
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{\%}}
278 \kilogram\usk\squaremetre\per\second%
279 }
280 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{\%}}
281 \kilogram\usk\squaremetre\usk\reciprocal\second%
282 }
283 \CustomizeMathJax{\newcommand{\radianpersecond}{\mathrm{radian}\mathrm{per}\mathrm{second}}}
284 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\mathrm{radian}\mathrm{usk}\mathrm{reciprocal}\mathrm{second}}}
285 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\mathrm{squaremetre}\mathrm{per}\mathrm{cubic}\mathrm{metre}}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{\%}}
287 \squaremetre\usk\mathrm{rpcubic}\mathrm{metre}%
288 }
289 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\mathrm{katal}\mathrm{per}\mathrm{cubic}\mathrm{metre}}}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\mathrm{katal}\mathrm{usk}\mathrm{rpcubic}\mathrm{metre}}}
291 \CustomizeMathJax{\newcommand{\coulombpermol}{\mathrm{coulomb}\mathrm{per}\mathrm{mole}}}
292 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\mathrm{coulomb}\mathrm{usk}\mathrm{reciprocal}\mathrm{mole}}}
293 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\mathrm{ampere}\mathrm{per}\mathrm{squaremetre}}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\mathrm{ampere}\mathrm{usk}\mathrm{rpsquare}\mathrm{metre}}}
295 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\mathrm{kilogram}\mathrm{per}\mathrm{cubic}\mathrm{metre}}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\mathrm{kilogram}\mathrm{usk}\mathrm{rpcubic}\mathrm{metre}}}
297 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{\%}}
298 \squaremetre\per\mathrm{newton}\mathrm{usk}\mathrm{second}%
299 }
300 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{\%}}
301 \squaremetre\usk\mathrm{reciprocal}\mathrm{newton}\mathrm{usk}\mathrm{reciprocal}\mathrm{second}%
```

```
302 }}
303 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
304 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetrepn}{\coulomb\usk\rpcubic\metre}}
306 \CustomizeMathJax{\newcommand{\amperemetresecond}{\ampere\usk\metre\usk\second}}
307 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
308 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
309 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
310 \CustomizeMathJax{\newcommand{\coulombpersquaremetrepn}{\coulomb\usk\rpsquare\metre}}
311 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
312 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
313 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
314 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
315 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
316 \CustomizeMathJax{\newcommand{\wattpersquaremetrepn}{\watt\usk\rpsquare\metre}}
317 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
318 \CustomizeMathJax{\newcommand{\joulepersquaremetrepn}{\joule\usk\rpsquare\metre}}
319 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetrepn}{\newton\usk\rpcubic\metre}}
321 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
322 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
323 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
324 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
325 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
326 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
327 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
328 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
329 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
330 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
331 \squaremetre\usk\reciprocal\second%
332 }%
333 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
334 \squaremetre\per\second\squared%
335 }%
336 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
337 \squaremetre\usk\second\rpsquared%
338 }%
339 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
340 \kilogram\usk\metre\per\second%
341 }%
342 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
343 \kilogram\usk\metre\usk\reciprocal\second%
344 }%
345 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
346 \CustomizeMathJax{\newcommand{\candelapersquaremetrepn}{\candela\usk\rpsquare\metre}}
347 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
348 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
349 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
350 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
351 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
352 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
353 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
354 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
355 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
356 \kilogram\per\squaremetre\usk\second%
```

```
357 }}}}%
358 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
359 \kilogram\usk\rpsquare\metre\usk\reciprocal\second}%
360 }}}}%
361 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}%
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}%
363 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}%
364 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}%
365 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}%
366 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
367 \joule\usk\reciprocal\mole\usk\reciprocal\kelvin}%
368 }}}}%
369 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}%
370 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
371 \kilogram\usk\kilo\reciprocal\mole}%
372 }}}}%
373 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}%
374 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}%
375 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
376 \kilogram\usk\metre\per\second\squared}%
377 }}}}%
378 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
379 \kilogram\usk\metre\usk\second\rpsquared}%
380 }}}}%
381 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}%
382 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}%
383 \CustomizeMathJax{\newcommand{\persquaremetresecond}{\per\squaremetre\usk\second}}%
384 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
385 \rpsquare\metre\usk\reciprocal\second}%
386 }}}}%
387 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}%
388 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}%
389 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}%
390 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}%
391 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
392 \watt\per\squaremetre\usk\steradian}%
393 }}}}%
394 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
395 \watt\usk\rpsquare\metre\usk\rp\steradian}%
396 }}}}%
397 \CustomizeMathJax{\newcommand{\joulepermilekelvin}{\joule\per\kilogram\usk\kelvin}}%
398 \CustomizeMathJax{\newcommand{\joulepermilekelvinnp}{%
399 \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin}%
400 }}}}%
401 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}%
402 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
403 \squaremetre\usk\reciprocal\kilogram}%
404 }}}}%
405 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}%
406 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
407 \cubic\metre\usk\reciprocal\kilogram}%
408 }}}}%
409 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}%
410 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}%
411 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}}
```

---

```

412 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
413 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
414 \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
415 }%
416 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}
417 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}%
418 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
419 \squaremetre\per\cubic\second%
420 }%
421 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
422 \squaremetre\usk\rpcubic\second%
423 }%
424 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
425 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
426 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
427 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}%
428 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
429 \kilogram\per\cubic\metre\usk\coulomb%
430 }%
431 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
432 \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
433 }%
434 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
435 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
436 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
437 \kilogram\per\second\usk\cubicmetre%
438 }%
439 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
440 \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
441 }%
442 \end{warpMathJax}

```

---

#### File 450 **lwarp-siunitx.sty**

§ 559      Package **siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg siunitx siunitx-v2 is patched for use by **lwarp**, and is emulated for MATHJAX. Use as:

`\usepackage{siunitx}[=v2]`

siunitx v3 is not yet supported.

**for HTML output:**

```

1 \providecommand\DeclareRelease[3]{}
2 \providecommand\DeclareCurrentRelease[2]{}
3
4 \DeclareRelease{2}{2010-05-23}{lwarp-siunitx-v2.sty}
5 \DeclareRelease{v2}{2010-05-23}{lwarp-siunitx-v2.sty}
6 \DeclareCurrentRelease{}{2021-05-17}
7
8 \PackageWarningNoLine{lwarp}

```

---

```

9 {%
10 *****\MessageBreak
11 Siunitx version 3 is not yet supported by Lwarp.\MessageBreak
12 V2 emulation is used here.\MessageBreak
13 *****
14 }
15
16 \RequirePackage{xcolor}\ for \convertcolorspec
17
18 % \LWR@ProvidesPackagePass{siunitx}[2021-05-21]
19
20 \RequirePackage{siunitx-v2}

```

---

File 451 **lwarf-siunitx-v2.sty**

§ 560 Package **siunitx-v2**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg siunitx-v2 siunitx-v2 is patched for use by lwarf, and is emulated for MATHJAX.

⚠ **v3 not yet!** sunitx v3 is not yet supported. For now, specify version 2:

`\usepackage{siunitx}[=v2]`

This may be also be necessary before loading other packages which also use siunitx, such as chemmacros.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠ **math mode required** Some units will require that the expression be placed inside math mode.

⚠ **tabular** Tabular S and s columns are rendered as simple c columns. These may be replaced by c columns with each cell contained in `\num` or `\si`.

For math mode with SVG display, the original siunitx code is used while generating the SVG image. For text mode, lwarf uses an emulation which provides a very effective

⚠ **MathJax** HTML interpretation of siunitx. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. Complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

Document modifications required for MATHJAX:

**custom units**

- Custom units may be added with `\CustomizeMathJax`. See the lwarf-siunitx code for examples.

⚠ **unit spacing**

- Units work better using `~` between units instead of using periods.

⚠ **\square, \cubic**

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

**for HTML output:**

```
1 \RequirePackage{xcolor}%
2 for \convertcolorspec
3 \LWR@ProvidesPackagePass{siunitx-v2}[2021-04-17]
4 \AtBeginDocument{%
5 in case textcomp was not loaded
6 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
7 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
8 \DeclareSIUnit\elementarycharge{\textit{e}}
9 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
10 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
11 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument
```

Support the S and s column types:

```
12 \AtBeginDocument{
13 \HTMLnewcolumntype{S}{c}
14 \HTMLnewcolumntype{s}{c}
15 }
```

\@ensuredmath is not supported inside an \hbox, so it must temporarily be restored to its original. Similar for \mbox. SVG math is created explicitly when necessary, using \LWR@subsingle dollar.

```
16
17 \ExplSyntaxOn
18 %
```

Modified to set set HTML \textcolor if not black:

```
19 \cs_set_protected:Npn __siunitx_print_aux:
20 {
21 \text
22 {
23 __siunitx_ensure_ltr:n
24 {
```

\color@endgroup was adding a paragraph break, so use a regular group instead.

```
25 % \color@begingroup
26 \begingroup% lwarp
27 %
28 __siunitx_print_color:
29 __siunitx_font_shape:
30 __siunitx_font_weight:
31 \use:c
32 {
```

```
33 __siunitx_ \l__siunitx_print_type_tl _
34 text \l__siunitx_font_family_tl :
35 }

36 % \bool_if:NTF \l__siunitx_font_math_mode_bool
37 % {
38 % __siunitx_print_math:
39 % }
40 {
41 \LWR@findcurrenttextcolor% lwarp
42 \ifdefstring{\LWR@tempcolor}{000000}% lwarp
43 {\l__siunitx_print_text:}% lwarp
44 {% lwarp
45 \LWR@textcurrentcolor{}% lwarp
46 __siunitx_print_text:
47 }% lwarp
48 }% lwarp
49 }
50 \color@endgroup
51 \endgroup% lwarp
52 %
53 }
54 }
55 }
56
57 \cs_set_protected:Npn __siunitx_set_math_fam:n #1 {
58 \group_begin:
59 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
60 \LetLtxMacro\mbox\lWR@print@mbox% lwarp
61 \hbox_set:Nn \l__siunitx_tmp_box
62 {
63 \ensuremath
64 {
65 \use:c { math #1 }
66 {
67 \int_const:cn { c__siunitx_math #1 _int } { \fam }
68 }
69 }
70 }
71 \group_end:
72 }
73
74 \cs_set_protected:Npn __siunitx_combined_output:n #1 {
75 %
76 \group_begin:% lwarp
77 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
78 \LetLtxMacro\mbox\lWR@print@mbox% lwarp
79 \bool_if:NTF \l__siunitx_number_parse_bool
80 {
81 \tl_clear:N \l__siunitx_number_out_tl
82 \bool_set_false:N \l__siunitx_number_compound_bool
83 __siunitx_number_output_parse:n {#1}
84 }
85 {
```

For parse-numbers=false:

```

86 __siunitx_unit_output_pre_print:
87 \begingroup% lwarp
88 \boolfalse{mathjax}%
89 % __siunitx_print:nn { number } { \ensuremath {\#1} } %
90 \LWR@subsingle dollar{%
91 \textbackslash(\LWR@HTMLsanitize{\#1} \textbackslash)%
92 }{siunitx}{%
93 __siunitx_print:nn { number } {%
94 \LWR@origensuredmath{\#1}%
95 }%
96 }% lwarp
97 \endgroup% lwarp
98 __siunitx_unit_output_print:
99 }
100 \group_end:% lwarp
101 %
102 }
```

For parse-numbers=false:

```

103 \cs_set_protected:Npn __siunitx_range_numbers_aux:n #1
104 {
105 \bool_if:NTF \l__siunitx_number_parse_bool
106 {
107 \tl_clear:N \l__siunitx_number_out_tl
108 \tl_clear:N \l__siunitx_number_out_saved_tl
109 \bool_set_false:N \l__siunitx_number_compound_bool
110 __siunitx_number_output_parse:n {\#1}
111 \bool_if:NT \l__siunitx_number_compound_bool
112 { \msg_error:nnx { siunitx } { multi-part-range } {\#1} }
113 }
114 {
115 __siunitx_unit_output_pre_print:
116 \begingroup% lwarp
117 \boolfalse{mathjax}%
118 % __siunitx_print:nn { number } {\#1} %
119 \LWR@subsingle dollar{%
120 \textbackslash(\LWR@HTMLsanitize{\#1} \textbackslash)%
121 }{siunitx}{%
122 __siunitx_print:nn { number } {%
123 \LWR@origensuredmath{\#1}%
124 }% lwarp
125 }% lwarp
126 \endgroup% lwarp
127 __siunitx_unit_output_print:
128 }
129 }
```

For parse-numbers=false:

```

130 \cs_set_protected:Npn __siunitx_angle_print_direct_aux:nn #1#2 {
131 \tl_if_empty:nF {\#1}
132 {
```

```

133 \tl_set:Nn \l__siunitx_unit_tl {#2}
134 \begingroup% lwarp
135 \boolfalse{mathjax}%
136 % __siunitx_print:nn { number } {#1}
137 \LWR@subsingle dollar{%
138 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)%
139 }{siunitx}{%
140 __siunitx_print:nn { number } {%
141 \LWR@origensuredmath{#1}%
142 }%
143 }%
144 \endgroup% lwarp
145 __siunitx_unit_output_print:
146 }
147 }
148 %

```

For quotients, the fraction code is replaced by the symbol code:

```

149 \cs_set_protected:Npn __siunitx_number_output_quotient_fraction: {
150 \bool_set_true:N \l__siunitx_number_compound_bool
151 __siunitx_number_output_quotient_aux_i:
152 \tl_set_eq:NN \l__siunitx_number_out_tl
153 \l__siunitx_number_numerator_tl
154 \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
155 \tl_put_right:NV \l__siunitx_number_out_tl
156 \l__siunitx_number_denominator_tl
157 __siunitx_number_output_single_aux:
158 }

```

For units, the fraction code is replaced by the symbol code:

```

159 \cs_set_protected:Npn __siunitx_unit_format_fraction_fraction: {
160 __siunitx_unit_format_fraction_symbol_aux:
161 \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
162 {
163 \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
164 {
165 \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
166 \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
167 }
168 }
169 \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
170 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
171 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
172 }

173 \cs_set_protected:Npn __siunitx_angle_print_astronomy_aux: {
174 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
175 \l__siunitx_tmpa_tl
176 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
177 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
178 {\% lateximage
179 \hbox_set:Nn \l__siunitx_angle_marker_box
180 {

```

```

181 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
182 }
183 \hbox_set:Nn \l__siunitx_angle_unit_box
184 {
185 __siunitx_print:nV { unit } \l__siunitx_unit_tl
186 \skip_horizontal:n { -\scriptspace }
187 }
188 __siunitx_angle_print_astronomy_aux:n { marker }
189 __siunitx_angle_print_astronomy_aux:n { unit }
190 \hbox_set:Nn \l__siunitx_angle_marker_box
191 {
192 \box_use:N \l__siunitx_angle_marker_box
193 \box_use:N \l__siunitx_angle_unit_box
194 }
195 \dim_compare:nNnTF
196 { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
197 { __siunitx_angle_print_astronomy_marker: }
198 { __siunitx_angle_print_astronomy_unit: }
199 }% lateximage
200 {% not a lateximage
201 __siunitx_print:nV { unit } \l__siunitx_unit_tl
202 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
203 }% not a lateximage
204 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
205 \l__siunitx_tmpa_tl
206 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
207 }

208 \cs_set_protected:Npn __siunitx_textsuperscript:n #1 {#1}
```

\num [⟨options⟩] {⟨value⟩}

```

209 \RenewDocumentCommand \num { o m } {
210 \leavevmode
211 \group_begin:% l warp
212 \LetLtxMacro\@ensuredmath\@origensuredmath% l warp
213 \LetLtxMacro\mbox\@LWR@print@mbox% l warp
214 \bool_set_false:N \l__siunitx_font_set_bool
215 \IfNoValueF {#1}
216 { \keys_set:nn { siunitx } {#1} }
217 __siunitx_number_output:n {#2}
218 \group_end:% l warp
219 }
```

\numrange [⟨options⟩] {⟨value1⟩} {⟨value2⟩}

```

220 \RenewDocumentCommand \numrange { o m m } {
221 \leavevmode
222 \group_begin:% l warp
223 \LetLtxMacro\@ensuredmath\@origensuredmath% l warp
224 \LetLtxMacro\mbox\@LWR@print@mbox% l warp
225 \bool_set_false:N \l__siunitx_font_set_bool
226 \IfNoValueF {#1}
227 { \keys_set:nn { siunitx } {#1} }
```

```
228 __siunitx_range_numbers:nn {#2} {#3}
229 \group_end:% lwarp
230 }

\ang {⟨options⟩} {⟨angle⟩}
231 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
232 \group_begin:% lwarp
233 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
234 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
235 \IfNoValueF {#1}
236 { \keys_set:nn { siunitx } {#1} }
237 __siunitx_angle_output:nnn #2
238 \group_end:% lwarp
239 }

\si {⟨options⟩} {⟨unit⟩}
240 \RenewDocumentCommand \si { o m } {
241 \leavevmode
242 \group_begin:% lwarp
243 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
244 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
245 \bool_set_false:N \l__siunitx_font_set_bool
246 \IfNoValueTF {#1}
247 { __siunitx_unit_output:nn {#2} { } }
248 {
249 \keys_set:nn { siunitx } {#1}
250 __siunitx_unit_output:nn {#2} {#1}
251 }
252 \group_end:% lwarp
253 }

\SIRange [⟨options⟩] {⟨value1⟩} {⟨value2⟩} {⟨unit⟩}
254 \RenewDocumentCommand{\SIRange}{o m m m}
255 {%
256 \leavevmode
257 \group_begin:% lwarp
258 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
259 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
260 \bool_set_false:N \l__siunitx_font_set_bool
261 \IfNoValueTF {#1}
262 { __siunitx_range_unit:nnnn {#4} { } {#2} {#3} }
263 {
264 \keys_set:nn { siunitx } {#1}
265 __siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
266 }
267 \group_end:% lwarp
268 }

269 \ExplSyntaxOff
```

For MATHJAX. (The following runs much faster as separate \CustomizeMathJax calls instead of one single call.)

```

270 \begin{warpMathJax}
271 \LWR@infoprocessingmathjax{siunitx}

272 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
273 \CustomizeMathJax{\newcommand{\raiseto}[2]{{#2}^{#1}}}
```

Used as an end marker when parsing values:

```
274 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

```
\ang [⟨options⟩] {⟨value⟩}

275 \CustomizeMathJax{\def\LWRsiunitxang{\num{#1};#3;#4\LWRsiunitxEND{%
276 \ifblank{#1}{}{\num{#1}\degree}%
277 \ifblank{#2}{}{\num{#2}^{\unicode{x2032}}}\prime
278 \ifblank{#3}{}{\num{#3}^{\unicode{x2033}}}\dblprime
279 }}
```

$$\ang[⟨options⟩]{⟨value⟩}$$

$$\def\ang{\num{#1};#3;#4\LWRsiunitxEND{%
 \ifblank{#1}{}{\num{#1}\degree}%
 \ifblank{#2}{}{\num{#2}^{\mathbb{X}2032}}\prime
 \ifblank{#3}{}{\num{#3}^{\mathbb{X}2033}}\mathbb{D}\prime
}}$$

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```

281 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
282 \ifblank{#1}%
283 {}%
284 {%
285 \ifstrelqual{#1}{-}%
286 {}%
287 {\LWRsiunitxprintdecimal{#1}\times}%
288 }%
289 10^{\LWRsiunitxprintdecimal{#2}}%
290 }}
```

\num handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, \def is used with parameter delimiters. When each of the following macro is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

```

291 \ExplSyntaxOn
292 \AtBeginDocument{
293 \ifdefstring{\l_siunitx_output_decimal_tl}{{,}}
294 {% Use decimal comma
295 \CustomizeMathJax{\def\LWRsiunitxprintdecimal{\sub#1.#2.#3\LWRsiunitxEND{%
296 \mathrm{#1}%
297 \ifblank{#2}%
298 {}%
299 {,\mathrm{#2}}%
300 }}}
```

```
301
302 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
303 \LWRsiunitxprintdecimalsub#1... \LWRsiunitxEND%
304 }%
305 }%
306 {%
307 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1,#2,#3 \LWRsiunitxEND{%
308 \mathrm{#1}%
309 \ifblank{#2}{%
310 {}%
311 {\mathrm{#2}}%
312 }%
313 }%
314 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
315 \LWRsiunitxprintdecimalsub#1,,, \LWRsiunitxEND%
316 }%
317 }%
318 }%
319 \ExplSyntaxOff
```

```
\num [⟨options⟩] {⟨value⟩}

320 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3 \LWRsiunitxEND{%
321 \ifblank{#2}{%
322 {\LWRsiunitxprintdecimal{#1}}% no plus
323 {%
324 \ifblank{#1}{%
325 {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
326 {%
327 \LWRsiunitxprintdecimal{#1}%
328 \unicode{x02B}% plus sign
329 \LWRsiunitxprintdecimal{#2}%
330 }%
331 }%
332 }%
333 }%
334 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3 \LWRsiunitxEND{%
335 \ifblank{#2}{%
336 {\LWRsiunitxnumplus#1+++\LWRsiunitxEND}%
337 {%
338 \LWRsiunitxprintdecimal{#1}%
339 \unicode{x02212}% mathematical minus sign
340 \LWRsiunitxprintdecimal{#2}%
341 }%
342 }%
343 }%
344 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3 \LWRsiunitxEND{%
345 \ifblank{#2}{%
346 {\LWRsiunitxnumminus#1---\LWRsiunitxEND}%
347 {%
348 \LWRsiunitxprintdecimal{#1}%
349 \unicode{x0B1}% \pm
350 \LWRsiunitxprintdecimal{#2}%
351 }%
352 }}
```

```

353
354 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
355 \ifblank{#2}{%
356 {\LWRsiunitxnumpm#1+-+\LWRsiunitxEND}%
357 {%
358 \ifblank{#3}{%
359 {%
360 \LWRsiunitxprintdecimal{#1}%
361 \times%
362 \LWRsiunitxprintdecimal{#2}%
363 }%
364 {%
365 \LWRsiunitxprintdecimal{#1}%
366 \times%
367 \LWRsiunitxprintdecimal{#2}%
368 \times%
369 \LWRsiunitxprintdecimal{#3}%
370 }%
371 }%
372 }%
373 }%
374 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
375 \ifblank{#2}{%
376 {\LWRsiunitxnumx#1xxxx\LWRsiunitxEND}%
377 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
378 }%
379 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
380 \ifblank{#2}{%
381 {\LWRsiunitxnumD#1DD\LWRsiunitxEND}%
382 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
383 }%
384 }%
385 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
386 \ifblank{#2}{%
387 {\LWRsiunitxnumd#1dd\LWRsiunitxEND}%
388 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
389 }%
390 }%
391 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
392 \ifblank{#2}{%
393 {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
394 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
395 }%
396 }%
397 \CustomizeMathJax{\def\LWRsiunitxnumcomma#1,#2,#3\LWRsiunitxEND{%
398 \ifblank{#2}{%
399 {\LWRsiunitxnume#1eee\LWRsiunitxEND}%
400 {\LWRsiunitxnume#1.#2eee\LWRsiunitxEND}%
401 }%
402 }%
403 \CustomizeMathJax{\newcommand{\num}[2][]{\LWRsiunitxnumcomma#2,,\LWRsiunitxEND}}%
\\si [<options>] {<unit>}

```

```

405 \CustomizeMathJax{\newcommand{\si}[2][]{\mathrm{#2}}}

\SI [⟨options⟩] {⟨value⟩} [⟨prefix⟩] {⟨unit⟩}
\SI has a second optional arg, which is parsed using \ifnextchar.
406 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
407 {#2}\num{#1}{#3}%
408 }%
409
410 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
411 \num{#1}\,{#2}%
412 }%
413 \CustomizeMathJax{\newcommand{\SI}[2][]{%
414 \ifnextchar[%%
415 {\LWRsiunitxSIopt{#2}}%
416 {\LWRsiunitxSI{#2}}%
417 }%
418 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{#2}}}

\numlist [⟨options⟩] {⟨list⟩}
\numlist should only be used in text mode. If used in MATHJAX, it is merely printed
as input.
419 \CustomizeMathJax{\newcommand{\numrange}[3][]{\num{#2}\,\text{\scriptsize\texttt{x2013}}\,\num{#3}}}

\SIList [⟨options⟩] {⟨list⟩}
\SIList and \SIRange should only be used in text mode. If used in MATHJAX, a simple
emulation is provided.
420 \CustomizeMathJax{\newcommand{\SIList}[3][]{\mathrm{#2}\,,\, #3}}

\SIRange [⟨options⟩] {⟨value1⟩} {⟨value2⟩} {⟨unit⟩}
421 \CustomizeMathJax{\newcommand{\SIRange}[4][]{\num{#2}\,,\, #4\,\text{\scriptsize\texttt{x2013}}\,,\, \num{#3}\,,\, #4}}

\tablenum [⟨options⟩] {⟨value⟩}
422 \CustomizeMathJax{\newcommand{\tablenum}[2][]{\mathrm{#2}}}

423 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
424 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
425 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
426 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
427 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
428 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
429 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}

```

```
430 %
431 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
432 \CustomizeMathJax{\newcommand{\degreeCelsius}{\text{\scriptsize{\textdegree}C}}}
433 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
434 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
435 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
436 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
437 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
438 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
439 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
440 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
441 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
442 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
443 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
444 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
445 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
446 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
447 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
448 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
449 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
450 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
451 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
452 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
453 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
454 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
455 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
456 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
457 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
458 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
459 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
460 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
461 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
462 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
463 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
464 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
465 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a_0}}}
466 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c_0}}}
467 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D_a}}}
468 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m_e}}}
469 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
470 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
471 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E_h}}}
472 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\hbar}}}
473 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\text{\AA}}}}
474 \CustomizeMathJax{\let\LRorigbar\bar}
475 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
476 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
477 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
478 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
479 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
480 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
481 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
482 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
483 %
484 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
```

```
485 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
486 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
487 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
488 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
489 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
490 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}{\mathrm{unicode}{x00B5}}}
491 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
492 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
493 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
494 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
495 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
496 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
497 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
498 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
499 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
500 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
501 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
502 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
503 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
504 %
505 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
506 %
507 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
508 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
509 %
510 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
511 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kg}\mathrm{kilo}\mathrm{gram}}}
512 \CustomizeMathJax{\newcommand{\of}[1]{\mathrm{_{\mathrm{of}}}[1]\mathrm{_{\mathrm{of}}}\mathrm{#1}}}
513 \CustomizeMathJax{\newcommand{\squared}{\mathrm{^2}}}
514 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{square}[1]\mathrm{#1}^2}}
515 \CustomizeMathJax{\newcommand{\cubed}{\mathrm{^3}}}
516 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{cubic}[1]\mathrm{#1}^3}}
517 \CustomizeMathJax{\newcommand{\per}{/}}
518 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\mathrm{celsius}\mathrm{unicode}{x2103}}}}
519 %
520 \CustomizeMathJax{\newcommand{\fg}{\mathrm{femto}\mathrm{gram}}}
521 \CustomizeMathJax{\newcommand{\pg}{\mathrm{pico}\mathrm{gram}}}
522 \CustomizeMathJax{\newcommand{\ng}{\mathrm{nano}\mathrm{gram}}}
523 \CustomizeMathJax{\newcommand{\ug}{\mathrm{micro}\mathrm{gram}}}
524 \CustomizeMathJax{\newcommand{\mg}{\mathrm{milli}\mathrm{gram}}}
525 \CustomizeMathJax{\newcommand{\g}{\mathrm{gram}}}
526 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kg}\mathrm{kilo}\mathrm{gram}}}
527 %
528 \CustomizeMathJax{\newcommand{\amu}{\mathrm{amu}\mathrm{u}}}
529 %
530 \CustomizeMathJax{\newcommand{\pm}{\mathrm{pico}\mathrm{metre}}}
531 \CustomizeMathJax{\newcommand{\nm}{\mathrm{nano}\mathrm{metre}}}
532 \CustomizeMathJax{\newcommand{\um}{\mathrm{micro}\mathrm{metre}}}
533 \CustomizeMathJax{\newcommand{\mm}{\mathrm{milli}\mathrm{metre}}}
534 \CustomizeMathJax{\newcommand{\cm}{\mathrm{centi}\mathrm{metre}}}
535 \CustomizeMathJax{\newcommand{\dm}{\mathrm{deci}\mathrm{metre}}}
536 \CustomizeMathJax{\newcommand{\m}{\mathrm{metre}}}
537 \CustomizeMathJax{\newcommand{\km}{\mathrm{kilo}\mathrm{metre}}}
538 %
539 \CustomizeMathJax{\newcommand{\as}{\mathrm{atto}\mathrm{second}}}
```

```
540 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
541 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
542 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
543 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
544 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
545 \CustomizeMathJax{\newcommand{\s}{\second}}
546 %
547 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
548 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
549 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
550 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
551 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
552 \CustomizeMathJax{\newcommand{\mol}{\mol}}
553 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
554 %
555 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
556 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
557 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
558 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
559 \CustomizeMathJax{\newcommand{\A}{\ampere}}
560 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
561 %
562 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
563 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
564 \CustomizeMathJax{\newcommand{\l}{\litre}}
565 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
566 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
567 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
568 \CustomizeMathJax{\newcommand{\L}{\liter}}
569 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
570 %
571 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
572 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
573 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
574 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
575 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
576 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
577 %
578 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
579 \CustomizeMathJax{\newcommand{\N}{\newton}}
580 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
581 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
582 %
583 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
584 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
585 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
586 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
587 %
588 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
589 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
590 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
591 %
592 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
593 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
594 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
```

---

```

595 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
596 \CustomizeMathJax{\newcommand{\V}{\volt}}
597 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
598 %
599 \CustomizeMathJax{\newcommand{\W}{\watt}}
600 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
601 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
602 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
603 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
604 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
605 %
606 \CustomizeMathJax{\newcommand{\J}{\joule}}
607 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
608 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
609 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
610 %
611 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
612 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
613 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
614 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
615 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
616 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
617 %
618 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
619 %
620 \CustomizeMathJax{\newcommand{\F}{\farad}}
621 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
622 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
623 %
624 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
625 %
626 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
627 %
628 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
629 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
630 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
631 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
632 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
633 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
634 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
635 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
636 \end{warpMathJax}

```

---

### File 452 **lwarp-skmath.sty**

§ 561      Package **skmath**

*(Emulates or patches code by SIMON SIGURDHSSON.)*

Pkg skmath skmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NNT\g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }
```

**skmath** is using **l3keys**, which does not seem to have an equivalent to **\@ifpackagewith**. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```

11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{{#1}}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{e}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{d}
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{d}
```

If notation=iso, use upright, else italic:

```

15 \cs_if_eq:NNTF __skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17 \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18 \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21 \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22 \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }
```

If notation=iso, use upright, else italic:

```

24 \cs_if_eq:NNTF __skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 {
26 \CustomizeMathJax{\newcommand{\ee}{\mathit{e}}}
27 \CustomizeMathJax{\newcommand{\ee}{\mathrm{e}}}
```

**skmath** uses **\DeclarePairedDelimiter** from **mathtools** for **\abs** and **\norm**, and **lwarp** uses this to automatically define MATHJAX definitions for each.

If notation=english, use slanted, else upright:

```

27 \cs_if_eq:NNTF __skmath_integral_d: \LWR__skmath_integral_d:
28 {
29 \CustomizeMathJax{\newcommand{\d}{\mathit{d}}}
30 \CustomizeMathJax{\newcommand{\d}{\mathrm{d}}}
```

Used to parse comma and caret arguments for **\pd** and **\td**:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

31 \CustomizeMathJax{\def\LWRskmathpdstar#1#2,#3,#4,#5,#6\LWRskmathEND{%
32 #1_{#2#3#4#5}%
33 }%
34 %
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36 \LWRskmathpdstar#1#2,,,\LWRskmathEND%
37 }}%

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.  $\backslash LWRskmathpdplus$  is used to only place a plus sign starting after the first term.  $\backslash LWRskmathpddone$  is used to only place a 1 digit if a second or later term does not have a power.

```

38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39 \ifblank{#1}{%
40 \ifblank{#2}{\LWRskmathpdplus\LWRskmathpddone}{\LWRskmathpdplus#2}%
41 }%
42 }}%

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpddenominator#1^#2^#3\LWRskmathEND{%
44 \ifblank{#1}{%
45 \ifblank{#2}{%
46 {\partial{#1}}%
47 {\partial{#1}^{#2}}%
48 }%
49 }}%

```

Factored from  $\backslash LWRskmathpdnostarsub$ , following:

The phrase  ${}^{\{ \}}$  appears to be required while parsing the carets.  $\backslash LWRskmathpdplus$  is used to only place a plus sign starting after the first term.  $\backslash LWRskmathpddone$  is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51 \partial^{\{%
52 \def\LWRskmathpdplus{}%
53 \LWRskmathpdnumerator#2^{\{ \}}^{\{ \}}\LWRskmathEND%
54 \def\LWRskmathpdplus{+}%
55 \def\LWRskmathpddone{1}%
56 \LWRskmathpdnumerator#3^{\{ \}}^{\{ \}}\LWRskmathEND%
57 \LWRskmathpdnumerator#4^{\{ \}}^{\{ \}}\LWRskmathEND%
58 \LWRskmathpdnumerator#5^{\{ \}}^{\{ \}}\LWRskmathEND%
59 }\%
60 {#1}\%
61 }}%
62 %
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%

```

```

64 \LWRskmathpdddenominator#1^{}^{}^{}^{}\LWRskmathEND%
65 \ifblank{#2}{}{, }%
66 \LWRskmathpdddenominator#2^{}^{}^{}^{}\LWRskmathEND%
67 \ifblank{#3}{}{, }%
68 \LWRskmathpdddenominator#3^{}^{}^{}^{}\LWRskmathEND%
69 \ifblank{#4}{}{, }%
70 \LWRskmathpdddenominator#4^{}^{}^{}^{}\LWRskmathEND%
71 }

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{%
73 \ifblank{#3}{\def\LWRskmathpdone{}{\def\LWRskmathpdone{1}}%
74 \frac{%
75 {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}%
76 {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}%
77 }%
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80 \LWRskmathpdnostarsub{#1}{#2}, , , , \LWRskmathEND%
81 }%
82 \CustomizeMathJax{\newcommand{\pd}{\ifstar{\LWRskmathpdstar}{\LWRskmathpdnostar}}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF __skmath_total_derivative_d: \LWR__skmath_total_derivative_d: %
84 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }

86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87 \frac{%
88 {\LWRskmathtd^{#3}{#1}}%
89 {\LWRskmathtd^{#2}{#3}}%
90 }%
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93 \LWRskmathtdsub{#1}{#2^{}{}}\LWRskmathEND%
94 }}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96 \operatorname{E}\left[\#1\right]%
97 }}

98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101 \operatorname{P}%
102 \left(\#1\right)%
103 }}

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105 \operatorname{Var}\left(\#1\right)%

```

```

106 }%
107
108 \CustomizeMathJax{\newcommand{\cov}[2][%
109 \operatorname{Cov}\left(\#1,\#2\right)}%
110 }%

```

Common code for  $\sin$  etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][][%%
112 \ifblank{\#1}{}{\^{#1}}%
113 \ifblank{\#2}{}{\left(\#2\right)}%
114 }%
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1][%
117 \operatorname{\#1}%
118 \LWRskmathtrigtwo%
119 }%
120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}%
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}%
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}%
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}%
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}%
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}%
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}%
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}%
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}%
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}%

```

Common code for  $\ln$  and  $\log$ :

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][][%%
135 \ifblank{\#1}{}{_{\#1}}%
136 \ifblank{\#2}{}{\left(\#2\right)}%
137 }%
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1][%
140 \operatorname{\#1}%
141 \LWRskmathlogtwo%
142 }%
143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}%
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}%
145 \CustomizeMathJax{\newcommand{\LWRskmathxpparens}[1][%
146 \operatorname{exp}%
147 \ifblank{\#1}{}{\left(\#1\right)}%
148 }%

```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{%
150 \mathchoice
151 {\ee^{\#1}}
152 {\LWRskmathexp parens{\#1}}
153 {\LWRskmathexp parens{\#1}}
154 {\LWRskmathexp parens{\#1}}
155 }%
156 }
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexp parens\LWRskmathexp nostar}}
```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159 \operatorname{\LWRskmathminname}%
160 \ifblank{\#1}{}{%
161 _{\mathchoice{\mathclap{\#1}}{\#1}{\#1}{\#1}}%
162 }%
163 \ifblank{\#2}{}{%
164 }}}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166 \ifblank{\#1}{%
167 \operatorname{\LWRskmathminname}%
168 {%
169 \underset{%
170 \mathchoice{\mathclap{\#1}}{\#1}{\#1}{\#1}}{%
171 \operatorname{\LWRskmathminname}}%
172 }%
173 \ifblank{\#2}{\left.\right.}%
174 }}
```

`\LWRskmathminname` seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176 \def\LWRskmathminname{\#1}%
177 \ifstar\LWRskmathminstar\LWRskmathminnostar%
178 }}
```

  

```

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}
```

Remember the original definitions:

---

```
189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}
```

Redefine depending on notation=iso:

```
191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192 \CustomizeMathJax{\renewcommand{\Re}[1]{%
193 \LWRskmathRe%
194 \ifblank{#1}{}{\left(#1\right)}%
195 }%
196 \CustomizeMathJax{\renewcommand{\Im}[1]{%
197 \LWRskmathIm%
198 \ifblank{#1}{}{\left(#1\right)}%
199 }%
200 }{%
201 \CustomizeMathJax{\renewcommand{\Re}[1]{%
202 \operatorname{Re}%
203 \ifblank{#1}{#1}%
204 }%
205 \CustomizeMathJax{\renewcommand{\Im}[1]{%
206 \operatorname{Im}%
207 \ifblank{#1}{#1}%
208 }%
209 }
210 \ExplSyntaxOff
212 \end{warpMathJax}
```

---

#### File 453 **lwarp-slantsc.sty**

§ 562 Package **slantsc**

(Emulates or patches code by HARALD HARDERS.)

Pkg slantsc slantsc is emulated for HTML, and used as-is for print output.

for HTML output:

```
1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

2 \newcommand*{\LWR@HTML@noscshape}{}%
3 \LWR@formatted{noscshape}%
4 %
5 \FilenameNullify{%
6 \LetLtxMacro\noscshape\empty%
7 }
```

---

#### File 454 **lwarp-slashed.sty**

§ 563 Package **slashed**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **slashed** **slashed** works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:** 1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}{\cancel{#1}}}
4 \end{warpMathJax}
```

---

### File 455 **l warp-soul.sty**

§ 564      Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg **soul** **soul** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
 2 \RequirePackage{xcolor}%
 for \convertcolorspec

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}%
4 %
5 \newcommand*\LWR@soulstcolor{}%
6 %
7 % \definecolor{\LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{\LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}%
```

\so {<text>}

Basic markup with css:

```
10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }
```

\caps {<text>}

```
13 \newcommand{\caps}[1]{%
14 \InlineClass{%
15 (font-variant:small-caps;letter-spacing:.1ex)%
16 {capspacing}{#1}%
17 }
```

\LWR@soulcolor {<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}

Add colors if not empty:

```
18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsempty{#2}%
20 {%
```

```

21 \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24 \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{\uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{%
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{\sout}{text-decoration-color}%
35 {text-decoration:line-through;}%
36 }
37
38 \newcommand{\hl}[1]{%
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{\highlight}{background-color}%
40 {background:\LWR@origpound{F8E800}}
41 }

```

Nullified:

```

42 \newcommand*\soulaccent}[1]{}%
43 \newcommand*\soulregister}[2]{}%
44 \newcommand\sloppyword}[1]{#1}%
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}%
46 \newcommand*\resetso{}%
47 \newcommand*\capsdef}[5]{}%
48 \newcommand*\capsreset{}%
49 \newcommand*\capssave}[1]{}%
50 \newcommand*\capsselect}[1]{}%
51 \newcommand*\setul}[2]{}%
52 \newcommand*\resetul{}%
53 \newcommand*\setuldepth}[1]{}%
54 \newcommand*\setuloverlap}[1]{}%
55 \newcommand*\lless{}%

```

Set colors:

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}%
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}%
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}%

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

---

**File 456 l warp-soulpos.sty**

§ 565      Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg soulpos soulpos is emulated.

**for HTML output:**

```
1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulenctype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulenctype}{0}
18 \newcommand{\ulpostolerance}{0}%

```

---

**File 457 l warp-soulutf8.sty**

§ 566      Package **soulutf8**

Pkg soulutf8 soulutf8 is emulated.

l warp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}
```

---

**File 458 l warp-splitbib.sty**

§ 567      Package **splitbib**

*(Emulates or patches code by NICOLAS MARKEY.)*

Pkg splitbib splitbib is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

```

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%]
10 text-align:center ;
11 border-top: 1px solid black ;
12 border-bottom: 1px solid black ;
13]{splitbibbar}
14 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%]
20 text-align:center ;
21]{splitbibdash}
22 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---#1#2---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27 \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }
```

### File 459 **lwarf-splitidx.sty**

§ 568      Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg **splitidx** **splitidx** is patched for use by **lwarf**.

If the **latexmk** option is selected for **lwarf**, **latexmk** will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 **\thepage** When using **\AtWriteToIndex** or **\AtNextWriteToIndex**, the user must not refer to **\thepage** during **HTML** output, as the concept of a page number is meaningless. Instead, do

---

```
\addtocounter{LWR@autoindex}{1}
\lWR@new@label{\lWRindex-\arabic{LWR@autoindex}}
```

where the \index-like action occurs, and then refer to \arabic{LWR@autoindex} instead of \thepage where the reference should occur.

See section 688.17 in the l warp-patch-memoir package for the \@@wrsindexhyp macro as an example.

**for HTML output:** 1 \lWR@ProvidesPackagePass{splitidx}[2016/02/18]

```
2 \catcode`_=12%
3 \xpatchcmd{\newindex}
4 {\jobname-#2.idx}
5 {\jobname-#2_html.idx}
6 {}
7 {\lWR@patcherror{splitidx}{@newindex}}
8 \catcode`_=8%
```

Patched to use l warp's automatic indexing counter instead of \thepage:

```
9 \renewcommand*{\@wrsindex}[2][]{%
10 \ifx\relax#1\relax
11 \if@splitidx
12 \@wrsindex[idx]{#2}%
13 \else
14 \def\@tempa{#2}%
15 \if@verbindex\onelevel@sanitize\@tempa\fi
16 \@wrindex{\@tempa}%
17 \fi
18 \else
19 \def\@tempa{#2}%
20 \csname index@\#1@hook\endcsname
21 % \expandafter\ifx\csname @\wrsindex\endcsname\relax
22 \addtocounter{LWR@autoindex}{1}% l warp
23 \label{\lWRindex-\arabic{LWR@autoindex}}% l warp
24 % \@@@wrsindex[#1]{{\@tempa}{\thepage}}%
25 % \@@@wrsindex[#1]{{\@tempa}{\arabic{LWR@autoindex}}}%
26 % \else
27 % \def\@tempb{\@@@wrsindex[#1]}%
28 % \expandafter\@tempb\@tempa||\\%
29 % \fi
30 \endgroup
31 \esphack
32 \fi
33 }
```

l warp defines sectioning commands with xpars e, so the below patches are done as temporary redefinitions instead of being \let.

```
34 \xpatchcmd{\printsubindex}
35 {\let\section\subsection}
36 {\renewcommand*{\section}{\subsection}}
37 {}
```

```
38 {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41 {\let\chapter\section}
42 {\renewcommand*{\chapter}{\section}}
43 {}
44 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
45
46 \xpatchcmd{\printsubindex}
47 {\let\@makechapterhead\section}
48 {\def\@makechapterhead{\section}}
49 {}
50 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
```

---

File 460 **l warp-srcltx.sty**

§ 569 Package **srcltx**

Pkg srcltx srcltx is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```
2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}
4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input
```

---

File 461 **l warp-srctex.sty**

§ 570 Package **srctex**

Pkg srctex srctex is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

---

File 462 **l warp-stabular.sty**

§ 571 Package **stabular**

(Emulates or patches code by SIGITAS TOLUŠIS.)

```
Pkg stabular stabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

Env stabular [<vpos>] {<colspec>}

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}{\vphantom{#1}}
6 }
7 {\end{tabular}}
```

  

```
Env stabular {<width>} [<vpos>] {<colspec>}

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}{\vphantom{#1}}
12 }
13 {\end{tabular}}
```

---

### File 463 **l warp-stackengine.sty**

## § 572 Package **stackengine**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

Pkg stackengine stackengine is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched \@stack and \stackanchor, where nesting lateximage does not work:

```
2 \LetLtxMacro{\LWR@orig@stackengine}{\stackengine}
3 \renewcommand*{\stackengine}[8]{%
4 \ifstreq{\#4}{0}{%
5 {\begin{ lateximage }[\ImageAltText] }%
6 {\begin{ lateximage }[\ImageAltText][]{vertical-align:top} }%
7 \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8 \end{ lateximage }%
9 }
```

\@stack uses a lateximage with a vertical alignment:

```
10 \LetLtxMacro{\LWR@orig@stack}{\@stack}
11
12 \xpatchcmd{\LWR@orig@stack}{\stackengine}{\LWR@orig@stackengine}{}%
13 {}
```

```

14 {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17 \ifstreq{\#3}{0}{%
18 {\begin{ lateximage }[\ImageAltText] }%
19 {\begin{ lateximage }[\ImageAltText][][vertical-align:top]}%
20 \LWR@orig@@stack{\#1}{\#2}{\#3}{\#4}%
21 \end{ lateximage }%
22 }

```

The lapping macros are disabled for HTML:

```

23 \newcommand*\LWR@HTML@@stacklap[4]{\#3}
24 \LWR@formatted{@stacklap}

```

\stackanchor is patched for two instances of \stackengine. A *lateximage* with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26 {}
27 {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30 {}
31 {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34 {\begin{ lateximage }[\ImageAltText][][vertical-align:middle]}%
35 {}
36 {\LWR@patcherror{stackengine}{stackanchor pre}}%
37
38 \xapptocmd{\stackanchor}{\end{ lateximage }}%
39 {}
40 {\LWR@patcherror{stackengine}{stackanchor app}}

```

\Centerstack is simply placed inside a *lateximage* with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42 {\begin{ lateximage }[\ImageAltText][][vertical-align:middle]}%
43 {}
44 {\LWR@patcherror{stackengine}{Centerstack pre}}%
45
46 \xapptocmd{\Centerstack}{\end{ lateximage }}%
47 {}
48 {\LWR@patcherror{stackengine}{Centerstack app}}

```

\savestack reverts to print mode while saving the box, then places it inside a *lateximage* when used:

```

49 \renewcommand*\savestack[2]{%
50 \xdef\sv@name{\stack@macro@name{\#1}}%
51 \@ifundefined{\sv@name content}{%
52 \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53 }{}%

```

---

```

54 \begingroup% lwarp
55 \LWR@restoreorigformatting% lwarp
56 \RenewDocumentEnvironment{lateximage}{s o o d(){}{}% lwarp: inside group
57 \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{\#2}%
58 \expandafter\gdef\expandafter#1\expandafter{%
59 \expandafter\begin\expandafter{lateximage\expandafter}%
60 \expandafter\usebox\expandafter{%
61 \csname\sv@name content\endcsname}%
62 \expandafter\end\expandafter{lateximage\expandafter}%
63 }%
64 \endgroup% lwarp
65 }

```

---

File 464 **lwarp-stackrel.sty**

§ 573 Package **stackrel**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg **stackrel** **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}{\mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}}}
4 \mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}%
5 }%
6
7 \CustomizeMathJax{\newcommand{\stackbin}{\mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}}}
8 \mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}%
9 }%
10 \end{warpMathJax}

```

---

File 465 **lwarp-statex2.sty**

§ 574 Package **statex2**

*(Emulates or patches code by RODNEY A SPARAPANI.)*

Pkg **statex2** **statex2** is patched for use by **lwarp**, and emulated for MATHJAX.

- ⚠ As of this version, option `autobold` does not appear to work for PDF output.
- ⚠ For MATHJAX, the tilde character `~` does not create `\sim`. Use `\sim` directly.
- ⚠ Because MATHJAX has limited conditional processing:

- `\wrap` only creates square braces, no matter what its optional arguments.
- `\P`, `\pCau`, `\pN`, and `\pU` do not handle special cases.

 **\and** To have `\and` work if using `\maketitle`, place the following after the start of the document:

```
\newcommand*{\and}{%
 \relax\ifmmode%
 \expandafter\;\mb{\mathrm{and}}\;%
 \else%
 \expandafter\STATE\and%
 \fi%
}
```

**for HTML output:** 1 `\LWR@ProvidesPackagePass{statex2}[2011/09/14]`

```
2 \newcommand*{\LWR@HTML@Alpha}[1][]{%
3 \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}}%
4 \textbf{\textcolor{ForestGreen}{\textsf{\#1}}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*{\LWR@HTML@List}[1]{%
9 \textbf{\textcolor{Dandelion}{\textsf{L}}}\textsubscript{\textit{\#1}}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*{\LWR@HTML@Snd}[1][]{%
14 \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}}%
15 \textbf{\textcolor{Dandelion}{\textsf{\#1}}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathit{c}}_{\#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\mathit{m}}_{\#1}}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\mathit{m}}_{\#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mathit{m}_{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mathit{m}_{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mathit{m}_{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mathit{m}_{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mathit{m}_{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mathit{m}_{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mathit{m}_{\frac{\mathrm{d}\{#1\}}{\mathrm{d}\{#2\}}}}\wrap{\mathit{m}_{\#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mathit{m}_{\frac{\mathrm{d}\{#1\}}{\mathrm{d}\{#2\}}}}\wrap{\mathit{m}_{\#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mathit{m}_{\mathrm{e}^{\#1}}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{[\mathit{m}_{\mathrm{E}}]_{\#1}\mathit{m}_{\#2}}}}
```

```

43 \CustomizeMathJax{\newcommand{\ha}{{\mb{\frac{\alpha}{2}}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][]{%
45 \mb{\mathrm{I}}_{{\mb{\#1}}}\LWRwrapparen{\mb{\#2}}%
46 }%
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48 \mb{\frac{\Gamma[#1+\#2]}{\Gamma[#1]\Gamma[#2]}}%
49 }%
50 \CustomizeMathJax{\newcommand{\If}{{\; \mb{\mathrm{if}} \;}}}
51 \CustomizeMathJax{\newcommand{\im}{{\mb{\mathrm{i}}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{}}}
53 \CustomizeMathJax{\newcommand{\ow}{{\; \mb{\mathrm{otherwise}} \;}}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55 \mb{\frac{\partial}{\partial \#1}}\wrap{\mb{\#2}}%
56 }%
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58 \mb{\frac{\partial}{\partial \#2}}\wrap{\mb{\#1}}%
59 }%
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline{}}}
62 \CustomizeMathJax{\newcommand{\V}[2][]{\mb{\mathrm{V}}_{{\mb{\#1}}}\LWRwrapparen{\mb{\#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{{\; \mb{\mathrm{vs}} \;}}}
64 \CustomizeMathJax{\newcommand{\where}{{\; \mb{\mathrm{where}} \;}}}
65 \CustomizeMathJax{\newcommand{\wrap}[2][]{\left[\#2 \right]}}% only []
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left(\#1 \right)}}% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}} doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{{\; \stackrel{\scriptstyle \mathsf{ind}}{\sim} \;}}}
72 \CustomizeMathJax{\newcommand{\ind}{{\; \stackrel{\scriptstyle \mathsf{ind}}{\sim} \;}}}
73 \CustomizeMathJax{\newcommand{\indpr}{%
74 {\; \stackrel{\scriptstyle \mathsf{ind}}{\stackrel{\scriptstyle \mathsf{prior}}{\sim}} \;}}
75 }%
76 \CustomizeMathJax{\newcommand{\post}{{\; \stackrel{\scriptstyle \mathsf{post}}{\sim} \;}}}
77 \CustomizeMathJax{\newcommand{\prior}{{\; \stackrel{\scriptstyle \mathsf{prior}}{\sim} \;}}}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][]{\mb{\STATEXGamma}\LWRwrapparen{\mb{\#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{{\; \mb{\mathrm{and}} \;}}}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][]{\mb{\mathrm{P}}_{{\mb{\#1}}}\LWRwrapparen{\mb{\#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\mid}{\mb{\mid}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}}\LWRwrapparen{\mb{\#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}}\LWRwrapparen{\mb{\#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}}_{{\mb{\#1}}, {\mb{\#2}}}\LWRwrapparen{\mb{\#1}, \mb{\#2}}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}}\LWRwrapparen{\mb{\#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95 \mb{\mathrm{Hypergeometric}}\LWRwrapparen{\mb{\#1}, \mb{\#2}, \mb{\#3}}%
96 }%
97 \CustomizeMathJax{\newcommand{\M}[2]{%

```

```

98 \mb{\mathrm{Multinomial}}\LWRwapparen{\mb{#1,\ #2}}%
99 }%
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}}\LWRwapparen{\mb{#1,\ #2}}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}}\LWRwapparen{\mb{#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105 \mb{\frac{\Gamma[#2+1]\Gamma[#3+\#1]\Gamma[#2+\#4-\#1]\Gamma[#3+\#4]}{%
106 \{\Gamma[#1+\#1]\Gamma[#2-\#1+\#1]\Gamma[#2+\#3+\#4]\Gamma[#3]\Gamma[#4]\}}}}%
107 \I[#1]{\{0, 1, _, \#2\}}, \where #3>0, \; #4>0 \and n=1, 2, _.}%
108 }%
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110 \mb{\binom{\#2}{\#1}\#3^{\#1}}}\LWRwapparen{\mb{\{1-\#3\}^{\{#2-\#1\}}}}}}%
111 \mb{\I[\#1]{\{0, 1, _, \#2\}}}, \where p \in (0, 1) \and n=1, 2, _.}%
112 }%
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114 \mb{\frac{1}{2^{\#1}}\#2^{\#1}\e^{-\#2}\I[\#1]{\{0, 1, _.\}}}, \where #2>0}}%
115 }%
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}}\LWRwapparen{\mb{#1,\ #2}}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][]{%
120 \chisq_{\mb{\#1}}}\LWRwapparen{\mb{\#2}}}}%
121 }%
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Beta}[2]{\mb{\mathrm{Beta}}}\LWRwapparen{\mb{#1,\ #2}}}}
124 \CustomizeMathJax{\let\Beta=\Beta}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}}\LWRwapparen{\mb{\#1}}}}%
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}}\LWRwapparen{\mb{#1,\ #2}}}}%
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}}\LWRwapparen{\mb{#1,\ #2}}}}%
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}}}\LWRwapparen{\mb{\#1}}}}%
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130 \mb{\mathrm{\Gamma^{-1}}}}}\LWRwapparen{\mb{#1,\ #2}}}}%
131 }%
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133 \mb{\mathrm{Wishart^{-1}}}}}\LWRwapparen{\mb{#1,\ #2}}}}%
134 }%
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Logistic}}}\LWRwapparen{\mb{#1,\ #2}}}}%
137 }%
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139 \mb{\mathrm{Log}\!-\!\mathit{N}}}\LWRwapparen{\mb{#1,\ #2}}}}%
140 }%
141 \CustomizeMathJax{\newcommand{\N}[3][]{%
142 \mb{\mathrm{N}}_-\mb{\#1}}}\LWRwapparen{\mb{\#2,\ #3}}}}%
143 }%
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}}\LWRwapparen{\mb{#1,\ #2}}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T^2}}}\LWRwapparen{\mb{#1,\ #2}}}}%
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwapparen{\mb{\#1}}}}%
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwapparen{\mb{#1,\ #2}}}}%
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwapparen{\mb{\#1}}}}%
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%

```

```

153 \IBeta{#2}{#3}%
154 #1^{#2-1}\LWRwapparen{1-#1}^{#3-1}\I[#1]{0,\ 1}, \where #2>0 \and #3>0%
155 }%
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 % \ifthenelse{\equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwapparen{1+#1}^2}%
158 {\frac{1}{#3}\cpi\left\{1+\wrap{\LWRwapparen{x-#2}/#3}^2\right\}}, \where #3>0}%
159 }% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161 \frac{2^{#2/2}}{\Gamma[#2/2]}#1^{#2/2-1}\e{-#1/2}%
162 \I[#1]{0,\infty}, \where #2>0%
163 }%
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165 \frac{1}{#2}\e{-#1/#2}\I[#1]{0,\infty},%
166 \where #2>0%
167 }%
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169 \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e{-#3#1}%
170 \I[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }%
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 % \ifthenelse{\equal{#2, #3}{0, 1}}{\frac{\sqrt{2}\cpi}{\sqrt{#3}}\e{-\LWRwapparen{#1-#2}^2/2}\cdot #3}%
174 % {\frac{1}{\sqrt{2}\cpi}\cdot #3}\e{-\LWRwapparen{#1-#2}^2/2}\cdot #3}%
175 {\frac{1}{\sqrt{2}\cpi}\cdot #3}\e{-\LWRwapparen{#1-#2}^2/2}\cdot #3}%
176 }% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178 \frac{#3}{#2}\LWRwapparen{1+#1/#2}^{#3+1}\I[#1]{0,\infty},%
179 \where #2>0 \and #3>0%
180 }%
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 % \ifthenelse{\equal{#2, #3}{0, 1}}{\I[#1]{0,\ 1}}%
183 {\frac{1}{#3-#2}\I[#1]{#2,\ #3}, \where #2<#3}%
184 }% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{=}[]{1}{\bar{#1}}}
187 \CustomizeMathJax{\let\widehat{\let\widetilde{\widehat{#1}}}}
188 \CustomizeMathJax{\let\widetilde{\widetilde{#1}}}
189 \CustomizeMathJax{\newcommand{\'}[1]{\LWRwapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b}[1]{\bar{\mb{#1}}}}
191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathit{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\mb{\mathit{#1}}}}
193 \CustomizeMathJax{\newcommand{\ldots}{\ldots}}
194 \end{warpMathJax}

```

---

File 466 **lwarf-statistics.sty**

§ 575      Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

Pkg **statistics** **statistics** is patched for use by **lwarf**.

 **\color** The **statistics** documentation examples include the use of the **\color** macro. Use **\textcolor** instead.

**⚠️ math** The `statistics` package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use `\ensuremath` or `\(` and `\)` as needed.

Pre/postline is ignored, and `\hline` is used instead. Each table will have an `\hline` above and below as a frame.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```

3 \StartDefiningTabulars% lwarp
4 \cs_set_protected_nopar:Nn __statistics_table_make:nn {
5 \int_compare:nT
6 { 0 < \l_statistics_table_maxcols_int
7 = \l_statistics_nbvals_int } {
8 __statistics_table_end:
9 \tl_use:N \l_statistics_table_sep_tl
10 __statistics_table_start:
11 }
12 \int_incr:N \l_statistics_nbvals_int
13 \int_incr:N \l_statistics_currange_int
14 \fp_add:Nn \l_statistics_curtotal_fp { #2 }
15 __statistics_set_if_shown:N \l_tmpa_bool
16 \tl_set:Nx \l_tmpa_tl {
17 \exp_not:n { & \tl_set:Nn \currentcolumn } {
18 \int_use:N \l_statistics_currange_int
19 }
20 }
21 \bool_if:NTF \l_tmpa_bool {
22 \tl_put_right:Nn \l_tmpa_tl
23 {__statistics_table_shown_format:n}
24 }{
25 \tl_put_right:Nn \l_tmpa_tl
26 {__statistics_table_hidden_format:n}
27 }
28 \seq_put_right:Nn \l_statistics_store_values_seq { #1 }
29 \bool_if:NT \l_statistics_table_values_bool {
30 \tl_put_right:Nx \l_statistics_table_values_tl {
31 \exp_not:V \l_tmpa_tl {
32 \exp_not:n {
33 __statistics_table_values_format:n { #1 }
34 }
35 }
36 }
37 }
38 \seq_put_right:Nx \l_statistics_store_counts_seq { \fp_eval:n {#2} }
39 \bool_if:NT \l_statistics_table_counts_bool {
40 \tl_put_right:Nx \l_statistics_table_counts_tl {
41 \exp_not:V \l_tmpa_tl {

```

```
42 \exp_not:n {
43 __statistics_table_counts_format:n {
44 { __statistics_table_allcounts_format:n { #2 } }
45 }
46 }
47 }
48 }
49 }
50 \bool_if:NT \l__statistics_table_icc_bool {
51 \tl_put_right:Nx \l__statistics_table_icc_tl {
52 \exp_not:V \l_tmpa_tl {
53 \exp_not:n { __statistics_table_icc_format:n }
54 {
55 \exp_not:n{ __statistics_table_allcounts_format:n }
56 { \fp_use:N \l__statistics_curtotal_fp }
57 }
58 }
59 }
60 }
61 \bool_if:NT \l__statistics_table_dcc_bool {
62 \tl_put_right:Nx \l__statistics_table_dcc_tl {
63 \exp_not:V \l_tmpa_tl {
64 \exp_not:n { __statistics_table_dcc_format:n }
65 {
66 \exp_not:n{ __statistics_table_allcounts_format:n }
67 {
68 \fp_eval:n {
69 \l__statistics_total_fp
70 - \l__statistics_curtotal_fp
71 + #2
72 }
73 }
74 }
75 }
76 }
77 }
78 \fp_set:Nn \l__statistics_table_curICF_fp {
79 round(\l__statistics_curtotal_fp
80 / \l__statistics_total_fp,
81 \l__statistics_table_round_int)
82 }
83 \bool_if:NT \l__statistics_table_frequencies_bool {
84 \tl_put_right:Nx \l__statistics_table_frequencies_tl {
85 \exp_not:V \l_tmpa_tl {
86 \exp_not:n { __statistics_table_frequencies_format:n }
87 {
88 \exp_not:n{ __statistics_table_allfreqs_format:n }
89 {
90 \fp_eval:n {
91 \l__statistics_table_curICF_fp
92 - \l__statistics_table_prevICF_fp
93 }
94 }
95 }
96 }
```

```

97 }
98 }
99 \bool_if:NT \l__statistics_table_icf_bool {
100 \tl_put_right:Nx \l__statistics_table_icf_tl {
101 \exp_not:V \l_tmpa_tl {
102 \exp_not:n { __statistics_table_icf_format:n }
103 {
104 \exp_not:n{ __statistics_table_allfreqs_format:n }
105 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
106 }
107 }
108 }
109 }
110 \bool_if:NT \l__statistics_table_dcf_bool {
111 \tl_put_right:Nx \l__statistics_table_dcf_tl {
112 \exp_not:V \l_tmpa_tl {
113 \exp_not:n { __statistics_table_dcf_format:n }
114 {
115 \exp_not:n{ __statistics_table_allfreqs_format:n }
116 {
117 \fp_eval:n {
118 1 - \l__statistics_table_prevICF_fp
119 }
120 }
121 }
122 }
123 }
124 }
125 \fp_set_eq:NN
126 \l__statistics_table_prevICF_fp
127 \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% lwarp

```

Redefined using tabular. Also, preline and postline do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

130 \cs_set_protected_nopar:Nn __statistics_table_end: {
131 \tl_set:Nx \l__statistics_table_preamble_tl {
132 \exp_not:n { \begin{array}{[}
133 \exp_not:n { \begin{tabular}{[}% lwarp
134 \exp_not:V \l__statistics_table_valign_tl
135 \exp_not:n { [] }
136 { \exp_not:V \l__statistics_table_headcoltype_tl
137 \prg_replicate:nn { \l__statistics_nbvals_int }
138 { \exp_not:V \l__statistics_table_coltype_tl } }
139 }
140 \seq_clear:N \l__statistics_table_contents_seq
141 \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
142 \bool_if:cT { \l__statistics_table_##1_bool } {
143 \seq_put_right:Nv
144 \l__statistics_table_contents_seq
145 { \l__statistics_table_##1_tl }
146 }
147 }

```

```

148 % $
149 \tl_use:N \l__statistics_table_preamble_tl
150 \hline% l warp
151 % \l__statistics_table_preline_tl
152 \seq_use:Nn
153 \l__statistics_table_contents_seq
154 { \l__statistics_table_newline_tl }
155 \\
156 % \l__statistics_table_postline_tl
157 \hline% l warp
158 % \end{array}$
159 \end{tabular}% l warp
160 }
```

With `l warp`, `\ensuremath` creates an SVG image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

161 \cs_set_protected_nopar:Nn __statistics_table_start: {
162 \int_zero:N \l__statistics_nbvals_int
163 \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
164 \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
165 }
166 \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
167 \tl_set:cx { \l__statistics_table_##1_tl } {
168 \exp_not:N \ensuremath {
169 \exp_not:N \hbox {
170 \exp_not:c { \l__statistics_table_##1_name_tl }
171 }
172 }
173 }
174 }
175 }
```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand __statistics_IN:w { m u{}; u{}; m } {
177 % \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
178 #1 #2 ; #3 #4% l warp
179 }
180
181 __statistics_setup:nn { table } {
182 % values/format = \ensuremath{#1},
183 values/format = {#1},% l warp
184 }
```

Added `\ExplSyntaxOn/Off` to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +0{} +m +0{} } {
186 \group_begin:
187 \int_gincr:N \g__statistics_graph_last_int
188 \tl_set:Nx \l_tmpa_tl {
```

```
189 \exp_not:n { g__statistics_graph_xstep_ }
190 \int_use:N \g__statistics_graph_last_int
191 \exp_not:n { _tl }
192 }
193 \tl_if_exist:cTF { \l_tmpa_tl } {
194 \fp_gset:Nn \g__statistics_graph_xstep_fp
195 { \tl_use:c { \l_tmpa_tl } }
196 }{
197 \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198 }
199 __statistics_setup:nn { graph } { #1, #3 }
200 \tl_if_single:nTF { #2 } {
201 \cs_if_exist:NF #2 { #2 }
202 \tl_set_eq:NN \l__statistics_data_tl #2
203 }{
204 \tl_set:Nn \l__statistics_data_tl { #2 }
205 }
206 \fp_zero:N \l__statistics_graph_maxheight_fp
207 \fp_set:Nn \l__statistics_graph_minvalue_fp { inf }
208 \fp_set:Nn \l__statistics_graph_maxvalue_fp { -inf }
209 \fp_zero:N \l__statistics_total_fp
210 \int_zero:N \l__statistics_nbvals_int
211 \bool_set_true:N \l__statistics_graph_allranges_bool
212 \keyval_parse:NNV
213 __statistics_graph_prepare:n
214 __statistics_graph_prepare:nn
215 \l__statistics_data_tl
216 \tl_clear:N \l__statistics_graph_tikzdata_tl
217 \tl_clear:N \l__statistics_graph_tikzinfo_tl
218 \int_zero:N \l__statistics_currange_int
219 \bool_if:NTF \l__statistics_graph_allranges_bool {
220 \bool_if:NTF \l__statistics_graph_cumulative_bool {
221 \ExplSyntaxOn% l warp
222 __statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff% l warp
224 }{
225 \ExplSyntaxOn% l warp
226 __statistics_graph_dopicture_hist:
227 \ExplSyntaxOff% l warp
228 }{
229 }{
230 \ExplSyntaxOn% l warp
231 __statistics_graph_dopicture_comb:
232 \ExplSyntaxOff% l warp
233 }
234 \iow_now:Nx \@auxout {
235 \exp_not:n {
236 \ExplSyntaxOn
237 \tl_gset:cn
238 }
239 {
240 \exp_not:n {g__statistics_graph_xstep_}
241 \int_use:N \g__statistics_graph_last_int
242 \exp_not:n { _tl }
243 }

```

---

```

244 {
245 \fp_to_decimal:N \g__statistics_graph_xstep_fp
246 }
247 \exp_not:n {
248 \ExplSyntaxOff
249 }
250 }
251 \group_end:
252 }
253
254 \ExplSyntaxOff

```

---

File 467 **l warp-statmath.sty**

§ 576      Package **statmath**

*(Emulates or patches code by SEBASTIAN ANKARGREN.)*

Pkg statmath **statmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

```

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefeqequal{\abcbf}{\mathbf}
8 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}

```

```
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\rightarrow}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\rightarrow}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\rightarrow}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,,\min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,,\max}}
85 \end{warpMathJax}
```

---

**File 468 l warp-steinmetz.sty**

§ 577      Package **steinmetz**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg **steinmetz** **steinmetz** is patched for use by **l warp**. Emulation is provided for MATHJAX

**for HTML output:** 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```
2 \renewcommand{\phase}[2][]{%
3 \begin{lateximage}*[steinmetz]{\detokenize{\#2}\!}%
4 \ensuremath{\underline{\!\detokenize{\#2}\!}}%
5 \end{lateximage}%
6 }%
7 %
8 \begin{warpMathJax}%
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{\!\detokenize{\#2}\!}}}%
10 \end{warpMathJax}
```

---

**File 469 l warp-stfloats.sty**

§ 578      Package **stfloats**

Pkg **stfloats** **stfloats** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

**stfloats** may have been preloaded by a **ltj\*** class.

The following are provided in case they have not yet been defined:

```
2 \providecommand*\fnbelowfloat{}%
3 \providecommand*\fnunderfloat{}%
4 \providecommand*\setbaselinefloat{}%
5 \providecommand*\setbaselinefixed{}%
```

Nullified for HTML:

```
6 \renewcommand*\fnbelowfloat{}%
7 \renewcommand*\fnunderfloat{}%
8 \renewcommand*\setbaselinefloat{}%
9 \renewcommand*\setbaselinefixed{}%
```

---

**File 470 l warp-struktex.sty**

§ 579      Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

Pkg struktex struktex is patched for use by l warp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{struktex}

2 \BeforeBeginEnvironment{struktogramm}{%
3 \begin{lateximage}[-struktex-\~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{\LWR@HTML@centerNss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centerNss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11 \begin{center}
12 \input{#1.nss}
13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centerNssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centerNssfile}
```

---

**File 471 l warp-subcaption.sty**

§ 580      Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg subcaption subcaption is patched for use by l warp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]
```

Tells l warp to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In HTML they are placed side-by-side automatically.

```
2 \xpretocmd{\subcaption@iiminipage}
3 {\minipagefullwidth}
4 {}
5 {\LWR@patcherror{subcaption}{subcaption@iiminipage}}
```

Likewise for a \subcaptionbox:

```

6 \xpretocmd{\subcaptionbox}
7 {\minipagefullwidth}
8 {}
9 {\LWR@patcherror{subcaption}{subcaptionbox}}

```

### File 472 **l warp-subfig.sty**

## § 581 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

Pkg **subfig** **subfig** is supported and patched by **l warp**.

⚠ **table numbering** To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

⚠ **lof/lotdepth** At present, the package options for **lofdepth** and **lotdepth** are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use **\hfill** and **\hspace\*** between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:** Accept all options for **l warp-subfig**:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

**\sf@@@subfloat** {⟨1 type⟩} [⟨2 lof entry⟩] [⟨3 caption⟩] {⟨4 contents⟩}

The outer minipage allows side-by-side subfloats with **\hfill** between.

```

2 \long\def\sf@@@subfloat#1[#2][#3]{%
3 \begin{minipage}{\linewidth}\l warp
4 \IfValueTF{#2}{%
5 \LWR@setlatestname{#2}%
6 }{%
7 \IfValueTF{#3}{%
8 \LWR@setlatestname{#3}%
9 }{%
10 }%
11 \LWR@stoppars\l warp
12 \@ifundefined{FBsc@\max}{%
13 \FB@readaux{\let\FBsubheight\relax}%
14 \tempcnda=\@ne
15 \if@minipage
16 \tempcnda=\z@
17 \else\ifdim\lastskip=\z@\else
18 \tempcnda=\tw@

```

```

19 \fi\fi
20 \ifmaincaptiontop
21 \sf@top=\sf@nearskip
22 \sf@bottom=\sf@farskip
23 \else
24 \sf@top=\sf@farskip
25 \sf@bottom=\sf@nearskip
26 \fi
27 \leavevmode

28 % \setbox\@tempboxa \hbox{\#4}%
29 % \wd\@tempboxa
30 % \ifundefined{FBsc@max}{ }%
31 % {\global\advance\Xhsize-\wd\@tempboxa
32 % \dimen@\ht\@tempboxa
33 % \advance\dimen@\dp\@tempboxa
34 % \ifdim\dimen@>\FBso@max
35 % \global\FBso@max\dimen@
36 % \fi}%

```

Do not use boxes, which interfere with `\textrimage`:

```

37 % \vtop%
38 \bgroup
39 % \vbox%
40 \bgroup
41 \ifcase\@tempcnta
42 \minipagetrue
43 \or
44 \vskip\sf@top
45 \or
46 \ifdim \lastskip=\z@ \else
47 \tempskipb\sf@top\relax\@xaddvskip
48 \fi
49 \fi
50 \sf@ifpositiontop{%
51 \ifx \empty\@empty\relax \else
52 \sf@subcaption{\#1}{\#2}{\#3}%
53 \vskip\sf@capskip
54 \vskip\sf@captopadj
55 \fi\egroup
56 \hrule width0pt height0pt depth0pt
57 \LWR@startpars% lwarp
58 % \box\@tempboxa
59 #4
60 \LWR@stopars% lwarp
61 }{%
62 \LWR@startpars% lwarp
63 \ifundefined{FBsc@max}{ }%
64 {
65 % \box\@tempboxa
66 #4
67 }%
68 {\ifx\FBsubheight\relax
69 % \box\@tempboxa
70 #4

```

```

71 \else
72 % \vbox to \FBsubohight{\FBafil\box\@tempboxa\FBbfil}%
73 #4
74 \fi}%
75 \LWR@stoppars% lwarp
76 \egroup
77 \ifx \empty\relax \else
78 % \vskip\sff@capskip
79 % \hrule width0pt height0pt depth0pt
80 \sff@subcaption{\#1}{\#2}{\#3}%
81 \fi
82 }%
83 \vskip\sff@bottom
84 \egroup
85 \ifundefined{FBsc@max}{}%
86 {\addtocounter{FRobj}{-1}%
87 \ifnum\c@FRobj=0\else
88 \subfloatrowsep
89 \fi}%
90 \ifmaincaptiontop\else
91 \global\advance\nameuse{c@\@capttype}\m@ne
92 \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%

```

```

\sff@subcaption {<1 type>} {<2 lof entry>} {<3 caption>}
97 \long\def\sff@subcaption#1#2#3{%
98 \LWR@stoppars% lwarp
99 \ifx \relax#2\relax \else
100 \bgroup
101 \let\label=\gobble
102 \let\protect=\string
103 \def\@subcaplabel{%
104 \caption@lstfmt{\nameuse{p\#1}}{\nameuse{the\#1}}%
105 \sff@updatecaptionlist{\#1}{\#2}{\the\value{\@capttype}}{\the\value{\#1}}%
106 \egroup
107 \fi
108 \bgroup
109 \ifx \relax#3\relax
110 \let\captionlabelsep=\relax
111 \fi
112 \setbox0\vbox{%
113 \hb@xt@\the\@tempdima{%
114 %
115 % \hss
116 % \parbox[t]{\the\@tempdima}{%
117 % \caption@make
118 % {\nameuse{sub\@capttype name}}%
119 % {\nameuse{thesub\@capttype}}%
120 % {\#3}%
121 % }%
122 % \hss

```

```
123 % }
124 % }%
125 \@ifundefined{FBsc@max}%
126 % {\box0}%
127 {
128 % \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}%
130 \LWR@figcaption% l warp
131 \caption@make
132 {\@nameuse{sub\@capttype name}}%
133 {\@nameuse{thesub\@capttype}}%
134 {\LWR@isolate{\#3}}%

135 \endLWR@figcaption% l warp
136 \LWR@traceinfo{sfsubcap B2}%
137 % }%
138 }%
139 {\dimen@\ht0%
140 \advance\dimen@\dp0%
141 \ifdim\dimen@>\FBsc@max
142 \global\FBsc@max\dimen@
143 \fi
144 \FB@readaux{\let\FBsubcheight\relax}%
145 \ifx\FBsubcheight\relax
146 \def\next{%
147 % \parbox[t]{\the\@tempdima}
148 }%
149 \else
150 \def\next{%
151 % \parbox[t][\FBsubcheight][t]{\the\@tempdima}
152 }%
153 \fi
154 % \vbox{%
155 % \hb@xt@\the\@tempdima{%
156
157 % \hss
158 % \next{%
159 \LWR@traceinfo{sfsubcap C1}%
160 \caption@make
161 {\@nameuse{sub\@capttype name}}%
162 {\@nameuse{thesub\@capttype}}%
163 {\#3}
164 \LWR@traceinfo{sfsubcap C1}%
165 % }%
166 % \hss
167
168 % }
169 % }%
170 }%
171 \egroup
172 \LWR@startpars% l warp
173 }
```

\subfloat@label Patches for \sf@sub@label:

```

174 \xpretocmd{\subfloat@label}
175 {\LWR@ensuredoingapar}
176 {}
177 {\LWR@patcherror{subfig}{subfloat@label}}

```

Patches for \subref.

```
\sf@subref {\langle label\rangle}
```

The unstarred version uses a \ref link whose printed text comes from the sub@<label>:

```

178 \renewcommand{\sf@subref}[1]{%
179 \LWR@subnewref{\#1}{sub@\#1}%
180 }

```

```
\sf@@subref {\langle label\rangle}
```

The starred version uses the printed sub@<label> which is stored as if it were a page number:

```
181 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@\#1}}
```

Defining new subfloats. The l@sub<type> for each is redefined.

```
\@newsubfloat [\langle keys/values\rangle] {\langle float name\rangle}
```

```

182 \LetLtxMacro{\LWR@orig@newsubfloat}{\@newsubfloat}
183
184 \def\@newsubfloat[#1]#2{%
185 \LWR@orig@newsubfloat[#1]{#2}%
186 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
187 }

```

Pre-defined for figures and tables:

```
\l@subfigure {\langle text\rangle} {\langle pagenum\rangle}
```

```
188 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}
```

```
\l@subtable {\langle text\rangle} {\langle pagenum\rangle}
```

```
189 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

File 473 **l warp-subfigure.sty**

## § 582 Package **subfigure**

Pkg subfigure subfigure is emulated by subfig.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]  
2 \RequirePackage{subfig}

3 \LetLtxMacro{\subfigure}{\subfloat}

---

```

4 \LetLtxMacro{\subtable}{\subfloat}
5 \LetLtxMacro{\Subref}{\subref}
6 @ifundefined{figuretopcaptrue}{\newif\iffiguretopcap{}}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*{\subcapsize}{}
20 \newcommand*{\subcaplabelfont}{}
21 \newcommand*{\subcapfont}{}

```

---

File 474 **l warp-subsupscripts.sty**

§ 583 Package **subsupscripts**

*(Emulates or patches code by RICCARDO BRESCIANI.)*

Pkg subsupscripts subsupscripts is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output 1 \LWR@ProvidesPackagePass{subsupscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourscriptsC}[7]{%
5 {}^{\#2}_{\#3}\hspace{\#6}\#1\hspace{\#7}{}^{\#4}_{\#5}%
6 }
7 }
8 \CustomizeMathJax{%
9 \newcommand{\lsubscriptsC}[5]{%
10 \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
11 }
12 }
13 \CustomizeMathJax{%
14 \newcommand{\rsuperscriptsC}[5]{%
15 \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
16 }
17 }
18 \CustomizeMathJax{%
19 \newcommand{\fourscripts}[5]{%
20 \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}{0ex}{0ex}%
21 }
22 }

```

---

```

23 \CustomizeMathJax{%
24 \newcommand{\lsubscripts}[3]{\fourscripts{#1}{#2}{#3}{#4}}
25 }
26 \CustomizeMathJax{%
27 \newcommand{\lsuperscripts}[3]{\fourscripts{#1}{#2}{#3}{#4}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twolscripts}[4][-.16ex]{{}^{\#3}_{\#4}\hspace{\#1}\#2}
31 }
32 \CustomizeMathJax{%
33 \newcommand{\tworscripts}[4][-.07ex]{{}^{\#2}\hspace{\#1}\{}^{\#3}_{\#4}\}}
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lsubscript}[3][-.16ex]{\twolscripts{\#1}{\#2}{\#3}{#4}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts{\#1}{\#2}{\#3}{\#4}}
40 }
41 \CustomizeMathJax{%
42 \newcommand{\rsubscript}[3][-.07ex]{\tworscripts{\#1}{\#2}{\#3}{\#4}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts{\#1}{\#2}{\#3}{\#4}}
46 }
47 \end{warpMathJax}

```

---

File 475 **lwarp-supertabular.sty**

§ 584 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

Pkg supertabular supertabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ Misplaced alignment  
tab character &

For \tablefirsthead, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **lateximage** supertabular and xtab are not supported inside a `lateximage`.

```

2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{#1}%
6 }
7
```

```
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{\#1}%
15 }

16 \newcommand{\tablecaption}[2][]{%
17 \long\gdef\LWRST@caption{%
18 \ifblank{\#1}{%
19 {\caption{\#2}}%
20 {\caption[\#1]{\#2}}%
21 }%
22 }%
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}%
27
28 \newcommand*\shrinkheight[1]{}%
29
30 \NewDocumentEnvironment{supertabular}{s o m}%
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}%

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}%
54 {\minipage{\linewidth}\supertabular{\#3}}%
55 {\endsupertabular\endminipage}
```

---

**File 476 l warp-svg.sty**

§ 585      Package **SVG**

(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)

Pkg    **svg**    **svg** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{svg}[2020/10/23]

```
2 \xpretocmd{\includesvg}{%
3 {\begin{lateximage}}{%
4 {}{%
5 {\LWR@patcherror{svg}{includesvg}}{%
6 %
7 \xapptocmd{\includesvg}{%
8 {\end{lateximage}}{%
9 {}{%
10 {\LWR@patcherror{svg}{includesvg}}{%
11 %
12 \xpretocmd{\includeinkscape}{%
13 {\begin{lateximage}}{%
14 {}{%
15 {\LWR@patcherror{svg}{includeinkscape}}{%
16 %
17 \xapptocmd{\includeinkscape}{%
18 {\end{lateximage}}{%
19 {}{%
20 {\LWR@patcherror{svg}{includeinkscape}}{%
```

---

**File 477 l warp-swfigure.sty**

§ 586      Package **swfigure**

(Emulates or patches code by CLAUDIO BECCARI.)

Pkg    **swfigure**    **swfigure** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

```
2 \NewDocumentEnvironment{DFimage}{%
3 {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!!{}{}}{%
4 {%
5 \begin{figure}%
6 \centering%
7 \includegraphics{#2}%
8 \caption[#3]{#4}%
9 \IfValueT{#5}{\label{#5}}{}}
```

```
10 \end{figure}
11 }%
12 {}%
```

---

**File 478 l warp-sympytex.sty****§ 587 Package sympytex**

(Emulates or patches code by TIM MOLTENO.)

Pkg sympytex sympytex is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{sympytex}[2014/05/16]

```
2 \AfterEndPreamble{
3
4 \AtBeginEnvironment{sympyblock}{%
5 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
6 {}%
7 {%
8 \LWR@forcenewpage%
9 \LWR@atbeginverbatim{verbatim}%
10 }%
11 }
12
13 \AfterEndEnvironment{sympyblock}{%
14 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
15 {}%
16 {%
17 \LWR@afterendverbatim%
18 }%
19 }
20
21 }
```

---

**File 479 l warp-syntonly.sty****§ 588 Package syntonly**

(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)

Pkg syntonly syntonly is ignored.

for HTML output: Discard all options for l warp-syntonly:

```
1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]
2 \newif\ifsyntax@
3 \syntax@false
4
```

```
5 \newcommand*\syntaxonly{}
6
7 \@onlypreamble\syntaxonly

8 \def\nopages@{}
```

---

#### File 480 **l warp-tabfigures.sty**

##### § 589 Package **tabfigures**

Pkg tabfigures tabfigures is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

#### File 481 **l warp-tablefootnote.sty**

##### § 590 Package **tablefootnote**

Pkg tablefootnote tablefootnote is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

```
2 \LetLtxMacro\tablefootnote\footnote
```

---

#### File 482 **l warp-tables.sty**

##### § 591 Package **tables**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg tables tables is emulated. \LWR@hline is used to handle the optional argument when tables is loaded.

for HTML output: 1 \LWR@ProvidesPackageDrop{tables}

```
2 \newdimen\tablinesep
3 \newdimen\arraylinesep
4 \newdimen\extrarulesep
```

---

**File 483 l warp-tabularx.sty**

§ 592      Package **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabularx tabularx is emulated by l warp.

for HTML output: Discard all options for l warp-tabularx:

```
1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]
2 \RequirePackage{array}
```

\tabularxcolumn is ignored. All X columns will be p for now. The width is ignored.

```
3 \def\tabularxcolumn#1{p{#1}}
4 \newcolumntype{X}{p{1in}}

5 \DeclareDocumentEnvironment{tabularx}{m o m}
6 {\begin{tabular}{#3}}
7 {\end{tabular}}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10 {\begin{tabular}{#3}}
11 {\end{tabular}}
```

---

**File 484 l warp-tabulary.sty**

§ 593      Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabulary tabulary is emulated by l warp.

for HTML output: Discard all options for l warp-tabulary.

Column types L, C, R, and J are emulated by l warp core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}
```

```
3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\begin{tabular}{#3}}
5 {\end{tabular}}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\begin{tabular}{#3}}
9 {\end{tabular}}
```

---

```

10 \newcolumntype{L}{l}
11 \newcolumntype{C}{c}
12 \newcolumntype{R}{r}
13 \newcolumntype{J}{l}

14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}

```

---

File 485 **lwarp-tagpdf.sty**

§ 594 Package **tagpdf**

Pkg tagpdf tagpdf is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, tagpdf errors when producing HTML, somehow due to the HTML page numbers.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tagpdf}[2021-08-27]

```

2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl
5
6 \keys_define:nn { __tag / mc }
7 {
8 stash .bool_set:N = \l__tag_mc_key_stash_bool,
9 __artifact_bool .bool_set:N = \l__tag_mc_artifact_bool,
10 __artifact-type .choice:,
11 __artifact-type / pagination .code:n =
12 {},
13 __artifact-type / pagination/header .code:n =
14 {},
15 __artifact-type / pagination/footer .code:n =
16 {},
17 __artifact-type / layout .code:n =
18 {},
19 __artifact-type / page .code:n =
20 {},
21 __artifact-type / background .code:n =
22 {},
23 __artifact-type / notype .code:n =
24 {},
25 __artifact-type / .code:n =
26 {},
27 }
28
29 \keys_define:nn { __tag / mc }
30 {
31 tag .code:n = % the name (H,P,Span) etc
32 {},

```

```
33 raw .code:n =
34 {}},
35 alttext .code:n = % Alt property
36 {
37 \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
38 },
39 actualtext .code:n = % ActualText property
40 {},
41 label .tl_set:N = \l__tag_mc_key_label_tl,
42 artifact .code:n =
43 {},
44 artifact .default:n = {notype}
45 }
46
47 \keys_define:nn { __tag / struct }
48 {
49 label .tl_set:N = \l__tag_struct_key_label_tl,
50 stash .bool_set:N = \l__tag_struct_elem_stash_bool,
51 tag .code:n = % S property
52 {},
53 title .code:n = % T property
54 {},
55 title-o .code:n = % T property
56 {},
57 alttext .code:n = % Alt property
58 {
59 \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
60 },
61 actualtext .code:n = % ActualText property
62 {},
63 lang .code:n = % Lang property
64 {},
65 ref .code:n = % Lang property
66 {},
67 E .code:n = % E property
68 {},
69 }
70
71 \keys_define:nn { __tag / struct }
72 {
73 AF .code:n = % AF property
74 {},
75 ,AFinline .code:n =
76 {},
77 ,AFinline-o .code:n =
78 {}
79 }
80
81 \keys_define:nn { __tag / struct }
82 {
83 attribute-class .code:n =
84 {},
85 }
86
87 \keys_define:nn { __tag / struct }
```

```
88 {
89 attribute .code:n = % A property (attribute, value currently a dictionary)
90 {},
91 }
92
93 \cs_new_protected:Npn __tag_ref_label:nn #1 #2 %#1 label, #2 name of list mc or struct
94 {
95 \@bsphack
96 \ref_label:nv {#1}{c__tag_ref#2_clist}
97 \@esphack
98 }
99 \cs_generate_variant:Nn __tag_ref_label:nn {en}
100
101 \cs_new:Npn __tag_ref_value:nnn #1 #2 #3 %#1 label, #2 attribute, #3 default
102 {
103 \ref_value:nnn {#1}{#2}{#3}
104 }
105 \cs_generate_variant:Nn __tag_ref_value:nnn {enn}
106 \cs_new:Npn __tag_ref_value_lastpage:nn #1 #2
107 {
108 \ref_value:nnn {__tag_LastPage}{#1}{#2}
109 }
110
111
112 \NewDocumentCommand \tagpdfsetup { m }{}
113
114 \cs_set_eq:NN \tagpdfifluatexTF \sys_if_engine_luatex:TF
115 \cs_set_eq:NN \tagpdfifluatexT \sys_if_engine_luatex:T
116 \cs_set_eq:NN \tagpdfifpdftexT \sys_if_engine_pdftex:T
117 \cs_new:Npn \tagpdfget #1 {}
118 \cs_new:Npn \uftag_get:n #1 {}
119
120 \NewDocumentCommand \tagmcfinTF { m m }{}
121
122 \NewDocumentCommand \tagmcbegin { m }{%
123 \tag_mc_begin:n {#1} \%ignorespaces
124 }
125
126 \cs_new_protected:Npn \tag_mc_begin:n #1 %#1 keyval
127 {
128 \keys_set:nn { __tag / mc } {#1}
129 }
130
131 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
132
133 \NewDocumentCommand \tagmcuse { m }{}
134
135 \cs_new_protected:Nn \uftag_mc_use:n {}
136
137 \NewDocumentCommand \tagstructbegin { m }
138 {
139 \tag_struct_begin:n {#1}
140 }
141
142 \cs_new_protected:Npn \tag_struct_begin:n #1 %#1 key-val
```

---

```

143 {
144 \keys_set:nn { __tag / struct} { #1 }
145 }
146
147
148 \NewDocumentCommand \tagstructend { }
149 {
150 \tag_struct_end:
151 }
152
153 \cs_new_protected:Nn \tag_struct_end:
154 {\ThisAltText{}}
155
156 \NewDocumentCommand \tagstructuse { m }{ }
157
158 \NewDocumentCommand\ShowTagging { m }
159 {}
160
161 \sys_if_engine_luatex:T
162 {
163 \NewDocumentCommand\pdffakespace { }
164 {}
165 }
166
167 \newcommand\tagpdfparaOn {}
168
169 \newcommand\tagpdfparaOff{}
170
171 \NewDocumentCommand\tagpdfsuppressmarks{m}{}
172
173 \ExplSyntaxOff

```

---

#### File 486 **l warp-tascmac.sty**

#### § 595 Package **tascmac**

Pkg tascmac tascmac is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```

2 \newenvironment*{boxnote}
3 {
4 \BlockClass[
5 padding: .5ex ;
6 border: 1px solid black ;
7 border-top: 1px dashed black ;
8]{boxnote}
9 }
10 {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13 {

```

```
14 \BlockClass[
15 padding: .5ex ;
16 border: 1px solid gray ;
17 border-radius: 8pt
18]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]{%
23 {
24 \BlockClass[
25 padding: .5ex ;
26 border: 1px solid gray ;
27 border-radius: 8pt
28]{boxnote}
29 \InlineClass{itemboxtitle}{#2}\par
30 }
31 {\endBlockClass}
32
33 \newenvironment*{shadebox}%
34 {
35 \BlockClass[
36 padding: .5ex ;
37 border: 1px solid black ;
38 box-shadow: 3px 3px 3px \#808080 ;
39]{boxnote}
40 }
41 {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44 \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48 \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*{\Maskbox}[6]{%
52 \InlineClass[
53 background: lightgray ;
54 border: #5 solid black
55]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][]{%
59 \InlineClass[%]
60 padding: .2ex ;
61 border: 1px solid black ;
62 border-radius: .7ex ;
63]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLunicode{00A5}}
67
68 \def\return{\HTMLunicode{23CE}}
```

---

```

69
70 \def\Return{\HTMLunicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}
```

---

File 487 **l warp-tcolorbox.sty**

§ 596      Package **tcolorbox**

*(Emulates or patches code by THOMAS F. STURM.)*

Pkg **tcolorbox** **tcolorbox** is patched for use by **l warp**.

See section [8.3.8](#) for limitations.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tcolorbox}[2020/04/28]

```

2 \newbool{\LWR@havetcblower}
3 \boolfalse{\LWR@havetcblower}
```

Colors are supported via HTML styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5 \convertcolorspec{named}{tcbbcolback}{HTML}\LWR@tcbbcolback
6 \convertcolorspec{named}{tcbbcolframe}{HTML}\LWR@tcbbcolframe
7 \iftcb@titlefilled%
8 \convertcolorspec{named}{tcbbcolbacktitle}{HTML}\LWR@tcbbcolbacktitle
9 \else
10 \convertcolorspec{named}{tcbbcolframe}{HTML}\LWR@tcbbcolbacktitle
11 \fi
12 \convertcolorspec{named}{tcbbcoltitle}{HTML}\LWR@tcbbcoltitle
13 \convertcolorspec{named}{tcbbcolupper}{HTML}\LWR@tcbbcolupper
14 \convertcolorspec{named}{tcbbcollower}{HTML}\LWR@tcbbcollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18 border-top: 1px solid \LWR@origpound\LWR@tcbbcolframe ;
19 border-bottom: 1px solid \LWR@origpound\LWR@tcbbcolframe ;
20 background: \LWR@origpound\LWR@tcbbcolbacktitle ;
21 color: \LWR@origpound\LWR@tcbbcoltitle ;
22 }
```

The title is placed inside its own <div> of class **tcolorboxtitle**.

```

23 \newcommand*{\LWR@showtitle@}[1]{%
24 \begin{BlockClass}[
25 \LWR@tcolorbox@titlecolorstyles
26]{tcolorboxtitle}
```

```

27 % \cmdKV@LWRtcolorbox@title\par
28 \kvtcb@before@title#1\kvtcb@after@title
29 \end{BlockClass}
30 }

```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*{\LWR@showtitle}[1]{%
32 \iftcb@titlevisible
33 \LWR@showtitle@{#1}
34 \else
35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*{\LWR@tcolorbox@dophantom}{%
40 \sbox\tcb@phantombox{\kvtcb@phantom}%
41 \iftcb@hasPhantom%
42 \box\tcb@phantombox%
43 \tcb@hasPhantomfalse%
44 \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\@empty%
47 }

```

The `tcolorbox` is placed inside an external `<div>` of class #1, which is `tcolorbox` or `tcolorbox inlineminipage`. The upper and lower parts are placed into their own internal `<div>`s of class `tcolorboxupper` and `tcolorboxlower`.

```

48 \newcommand*{\LWR@tcolorboxstart}[1]{%
49 \LWR@tcolorbox@findcolors
50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53]{#1}
54 \LWR@tcolorbox@dophantom%
55 \ifdefvoid{\kvtcb@title}
56 {}
57 {
58 \LWR@showtitle{\kvtcb@title}
59 }
60 \begin{BlockClass}[
61 color: \LWR@origpound\LWR@tcbcolupper ;
62]{tcolorboxupper}
63 }

```

Flosts enclose the `tcolorbox`.

```

64 \newcommand*{\LWR@tcolorbox@dosstartfloat}{%
65 \ifx\kvtcb@float\@empty%
66 \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 \edef\tcb@before@unbroken{%
69 \noexpand\tcb@float@env@begin[tcbfloat][\kvtcb@float]%
70 \noexpand\kvtcb@everyfloat%

```

```

71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 \noexpand\kvtcb@everyfloat
75 \fi%
76 }
77
78 \newcommand*{\LWR@tcolorbox@doendfloat}{%
79 \ifx\kvtcb@float@\empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

```

84 \renewenvironment{tcolorbox}[1][]%
85 {
86 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
87 {
88 \PackageError{lwarp}{%
89 Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
90 or SVG math.\MessageBreak
91 Enter 'H' for possible solutions%
92 }%
93 }%
94 {%
95 Use \protect\tcbox, \protect\tcboxmath, or
96 \protect\tchighmath\space instead.\MessageBreak
97 (Inside math, you probably want to use these anyhow.)%
98 }%
99 }{\relax}
100 \LWR@printpendingfootnotes
101 \tcb@layer@inc
102 \tcb@apply@box@options{#1}
103 \LWR@tcolorbox@dostartfloat%
104 % \tcbset{title=#1}
105 \boolfalse{LWR@havetcblower}
106 \LWR@tcolorboxstart{tcolorbox}
107 \tcb@insert@before@upper%
108 }
109 {
110 \ifbool{LWR@havetcblower}{%
111 \tcb@insert@after@lower%
112 }{%
113 \tcb@insert@after@upper%
114 }%
115 \end{BlockClass}
116 \LWR@printpendingfootnotes
117 \tcb@layer@dec
118 \end{BlockClass}
119 \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started. `\tcblower` is only temporarily defined where appropriate, so the HTML version is defined globally via `\newcommand` instead of `\renewcommand`.

```
121 \newcommand{\tcblower}{%
122 \tcb@insert@after@upper%
123 \end{BlockClass}%
124 \begin{BlockClass}[%
125 border-top: 1px dashed \LWR@origpound\LWR@tcblowerframe ;
126 color: \LWR@origpound\LWR@tcblower ;
127]{tcolorboxlower}%
128 \tcb@insert@before@lower%
129 }
```

Starred and unstarred `\tcbline` are simple `\hrule`s.

```
130 \AtBeginDocument{%
131 \ifdef{\tcbline}{%
132 \newcommand*\LWR@sub@tcbline[%
133 \begin{BlockClass}\hrule%
134 \end{BlockClass}%
135]{%
136 \newcommand{\LWR@HTML@tcbline}{\@ifstar\LWR@sub@tcbline\LWR@sub@tcbline}%
137 \LWR@formatted{tcbline}%
138 }{}%
139 }%
140 \newcommand{\LWR@HTML@tcbox}[2][]{%
141 \LWR@printpendingfootnotes%
142 \LWR@tcolorbox@dostartfloat%
143 \begingroup%
144 \tcb@layer@inc%
145 \tcb@apply@box@options{#1}%
146 \tcbset{title=#1}%
147 % \boolfalse{\LWR@havetcblower}%
148 \LWR@tcolorboxstart{tcolorbox inlineminipage}%
149 \tcb@insert@before@upper%
150 #2%
151 \ifbool{\LWR@havetcblower}{%
152 \tcb@insert@after@lower%
153 }{%
154 \tcb@insert@after@upper%
155 }%
156 \end{BlockClass}%
157 \LWR@printpendingfootnotes%
158 \end{BlockClass}%
159 \tcb@layer@dec%
160 \endgroup%
161 \LWR@tcolorbox@dostartfloat%
162 \global\booltrue{\LWR@minipagethispar}%
163 }%
164 \LWR@formatted{tcbox}%
165 \appto{\LWR@restoreMathJaxformatting}{%
166 \renewcommand{\tcbox}[2][]{#2}%
167 }
```

```
169 }
```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```
170 \xpatchcmd{\tcbsubtitle}
171 {\begingroup}
172 {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173 {}
174 {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
175
176 \xpatchcmd{\tcbsubtitle}
177 {\endgroup}
178 {\end{BlockClass}\endgroup}
179 {}
180 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}
```

\tcboxfit is the same as \tcbox.

```
181 \AtBeginDocument{
182 \ifdef{\tcboxfit}{%
183 \let\LWR@HTML@tcboxfit\tcbox%
184 \LWR@formatted{tcboxfit}
185 }{}
186 }
```

\tcbttitle is patched to support the text font.

```
187 \LetLtxMacro\LWR@HTML@tcbttitle\tcbtitle
188 \xpatchcmd{\LWR@HTML@tcbttitle}
189 {\kvtcb@before@title\tcbtitletext}
190 {\kvtcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
191 {}
192 {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbttitle}}
193 \LWR@formatted{tcbttitle}
```

List-of:

```
194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}
```

Theorem limitations. An error is printed if the document uses math, ams equation, etc. \tcboxmath and \tcbhighmath are ignored for HTML.

```
195 \AtBeginDocument{
196 \pgfkeysifdefined{/tcb/libload/theorems}%
197
198 \def\LWR@HTML@tcb@hack@amsmath{%
199 \PackageError{lwarp}{%
200 tcolorbox ‘‘math’’, ‘‘ams equation’’, and related\MessageBreak
201 are not supported.\MessageBreak
202 \protect\tcboxmath\space and
203 \protect\tcbhighmath\space are emulated.\MessageBreak
204 Enter ‘H’ for possible solutions%
205 }%
```

```

207 {%
208 Remove tcolorbox math-related options, and instead\MessageBreak
209 use the usual math environments inside each tcolorbox.%}
210 }
211 }
212 \LWR@formatted{tcb@hack@amsmath}
213
214 % Cause an error if using math:
215 \tcbset{%
216 math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217 math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218 }
219
220 \appto\LWR@restoreorigformatting{%
221 \tcbset{%
222 math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223 math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224 }
225 }
226
227 \newcommand{\LWR@HTML@tcboxmath}[2][]{#2}
228 \LWR@formatted{tcboxmath}
229 \newcommand{\LWR@HTML@tcbhighmath}[2][]{#2}
230 \LWR@formatted{tcbhighmath}
231 \appto\LWR@restoreMathJaxformatting{%
232 \renewcommand{\tcboxmath}[2][]{#2}%
233 \renewcommand{\tcbhighmath}[2][]{#2}%
234 }
235 }% theorems loaded
236 }% AtBeginDocument

```

For MATHJAX:

```

237 \CustomizeMathJax{\newcommand{\tcbset}[1]{}}
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}}
239 \CustomizeMathJax{\newcommand{\tcbox}[2][]{\boxed{\text{#2}}}}
240 \CustomizeMathJax{\newcommand{\tcboxfit}[2][]{\boxed{#2}}}
241 \CustomizeMathJax{\newcommand{\tcblower}{}}
242 \CustomizeMathJax{\newcommand{\tcbline}{}}
243 \CustomizeMathJax{\newcommand{\tcbtitle}{}}
244 \CustomizeMathJax{\newcommand{\tcbsubtitle}[2][]{\mathrm{#2}}}
245 \CustomizeMathJax{\newcommand{\tcboxmath}[2][]{\boxed{#2}}}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][]{\boxed{#2}}}

```

File 488 **lwarp-tensor.sty**

§ 597 Package **tensor**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

Pkg tensor tensor is used as-is for SVG math, and is emulated for MATHJAX.

⚠ **spacing** Compressed spacing and left justification are not possible with MATHJAX.

---

**for HTML output:** 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processesed recursively.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def{\LWRtensorindicesthreesub}{\LWRtensorindicesthree}}
4 \CustomizeMathJax{\def{\LWRtensorindicesthreesup}{\LWRtensorindicesthree}}
```

If not a superscript nor a subscript, processing stops.

```
5 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreensup}{}}
```

Check ahead for a superscript or a subscript.

```
6 \CustomizeMathJax{\newcommand{\LWRtensorindicesthreensub}{
7 \ifnextchar ^ \LWRtensorindicesthreesup \LWRtensorindicesthreensup
8 }
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree} {
11 \ifnextchar _ \LWRtensorindicesthreesub \LWRtensorindicesthreensub
12 }}
```

Ignore star.

```
13 \CustomizeMathJax{\newcommand{\LWRtensorindicestwo} {
14 \ifstar \LWRtensorindicesthree \LWRtensorindicesthree
15 }}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicestwo#1}}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][]{\vphantom{\LWRtensortwo}\indices{\#1}{\#2}\indices{\#3}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar \LWRtensortwo \LWRtensortwo}}
```

In text mode, `\nuclide` is converted to an svg image.

```
19 \CustomizeMathJax{%
20 \newcommand{\LWRnuclidetwo}[2][]{%
21 {%
22 \vphantom{\mathrm{\#2}}%
23 {}^{\mathrm{\#1}}\mathrm{\#2}%
24 \mathrm{\#2}%
25 }%
```

---

```

26 }%
27 }

28 \CustomizeMathJax{%
29 \newcommand{\nuclide}[1][]{%
30 \def\LWRtensornucleonnumber{\#1}%
31 \LWRnuclidetwo%
32 }%
33 }
34 \end{warpMathJax}

```

---

File 489 **lwarp-termcal.sty**

§ 598 Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg **termcal** **termcal** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```

2 \xpatchcmd{\endcalendar}
3 {@{}}
4 {}
5 {}
6 {\LWR@patcherror{termcal}{endcalendar}}

```

Remove the hbox:

```

7 \xpatchcmd{\ca@doaday}
8 {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9 {%
10 \calprintdate\hfill\ifclassday\calprintclass\fi%
11 }
12 {}
13 {\LWR@patcherror{termcal}{ca@doaday}}

```

Change each of two ampersands to call the lwarp tabular version:

```

14 \xpatchcmd{\calday}
15 {&}
16 {\LWR@tabularampersand}
17 {}
18 {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21 {&}
22 {\LWR@tabularampersand}
23 {}
24 {\LWR@patcherror{termcal}{calday B}}

```

---

**File 490 l warp-textarea.sty****§ 599 Package **textarea****

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg **textarea** **textarea** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```
2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restoretarea\@empty
```

---

**File 491 l warp-textcomp.sty****§ 600 Package **textcomp****

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg **textcomp** **textcomp** is patched for use by **l warp**.

For MATHJAX, the MATHJAX packge is used.

**§ 600.1 Limitations**

Some **textcomp** symbols do not have Unicode equivalents, and thus are not supported.

- ⚠ **missing symbols** Many **textcomp** symbols are not supported by many system/browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

**§ 600.2 Package loading**

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 600.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

\AtBeginDocument improves support for LuaLaTeX and XeLaTeX.

#### § 600.3.1 pdfLaTeX symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdflatex or dvi latex
4 \newcommand*{\LWR@HTML@textdegree}{\HTMLentity{deg}}
5 \newcommand*{\LWR@HTML@textcelsius}{\HTMLunicode{2103}}
6 \newcommand*{\LWR@HTML@textohm}{\HTMLunicode{2126}}
7 \newcommand*{\LWR@HTML@textmu}{\HTMLunicode{00B5}}
8 \newcommand*{\LWR@HTML@textlquill}{\HTMLunicode{2045}}
9 \newcommand*{\LWR@HTML@textrquill}{\HTMLunicode{2046}}
10 \newcommand*{\LWR@HTML@textcircledP}{\HTMLunicode{2117}}
11 \newcommand*{\LWR@HTML@texttwelvedash}{\HTMLunicode{2014}}% emdash
12 \newcommand*{\LWR@HTML@textthreequartersemdash}{\HTMLunicode{2014}}% emdash
13 \newcommand*{\LWR@HTML@textmho}{\HTMLunicode{2127}}
14 \newcommand*{\LWR@HTML@textnaira}{\HTMLunicode{20A6}}
15 \newcommand*{\LWR@HTML@textpeso}{\HTMLunicode{20B1}}
16 \newcommand*{\LWR@HTML@textrecipe}{\HTMLunicode{211E}}
17 \newcommand*{\LWR@HTML@textinterrobang}{\HTMLunicode{203D}}
18 \newcommand*{\LWR@HTML@textinterrobangdown}{\HTMLunicode{2E18}}
19 \newcommand*{\LWR@HTML@textperthousand}{\HTMLunicode{2030}}
20 \newcommand*{\LWR@HTML@textpertenthousand}{\HTMLunicode{2031}}
21 \newcommand*{\LWR@HTML@textbaht}{\HTMLunicode{0E3F}}
22 \newcommand*{\LWR@HTML@textdiscount}{\%}
23 \newcommand*{\LWR@HTML@textservicemark}{\HTMLunicode{2120}}
24 \else

```

#### § 600.3.2 XeLaTeX and LuaLaTeX symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*{\LWR@HTML@textdegree}{°}
26 \newcommand*{\LWR@HTML@textcelsius}{℃}
27 \newcommand*{\LWR@HTML@textohm}{Ω}
28 \newcommand*{\LWR@HTML@textmu}{μ}
29 \newcommand*{\LWR@HTML@textlquill}{ℓ}
30 \newcommand*{\LWR@HTML@textrquill}{₱}
31 \newcommand*{\LWR@HTML@textcircledP}{🄧}
32 \newcommand*{\LWR@HTML@texttwelvedash}{‐}% emdash
33 \newcommand*{\LWR@HTML@textthreequartersemdash}{‐}% emdash
34 \newcommand*{\LWR@HTML@textmho}{℧}
35 \newcommand*{\LWR@HTML@textnaira}{₪}
36 \newcommand*{\LWR@HTML@textpeso}{₱}
37 \newcommand*{\LWR@HTML@textrecipe}{₹}
38 \newcommand*{\LWR@HTML@textinterrobang}{՞}
39 \newcommand*{\LWR@HTML@textinterrobangdown}{՚}
40 \newcommand*{\LWR@HTML@textperthousand}{}

```

```

41 \newcommand*{\LWR@HTML@textpertenthousand}{\%}
42 \newcommand*{\LWR@HTML@textbaht}{\$}
43 \newcommand*{\LWR@HTML@textdiscount}{\%}
44 \newcommand*{\LWR@HTML@textservicemark}{\$}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 600.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*{\LWR@HTML@capitalcedilla}[1]{\#1\HTMLunicode{0327}}
68 \newcommand*{\LWR@HTML@capitalogonek}[1]{\#1\HTMLunicode{0328}}
69 \newcommand*{\LWR@HTML@capitalgrave}[1]{\#1\HTMLunicode{0300}}
70 \newcommand*{\LWR@HTML@capitalacute}[1]{\#1\HTMLunicode{0301}}
71 \newcommand*{\LWR@HTML@capitalcircumflex}[1]{\#1\HTMLunicode{0302}}
72 \newcommand*{\LWR@HTML@capitaltilde}[1]{\#1\HTMLunicode{0303}}
73 \newcommand*{\LWR@HTML@capitaldieresis}[1]{\#1\HTMLunicode{0308}}
74 \newcommand*{\LWR@HTML@capitalhungarumlaut}[1]{\#1\HTMLunicode{30B}}
75 \newcommand*{\LWR@HTML@capitalring}[1]{\#1\HTMLunicode{30A}}
76 \newcommand*{\LWR@HTML@capitalcaron}[1]{\#1\HTMLunicode{30C}}
77 \newcommand*{\LWR@HTML@capitalbreve}[1]{\#1\HTMLunicode{306}}
78 \newcommand*{\LWR@HTML@capitalmacron}[1]{\#1\HTMLunicode{304}}
79 \newcommand*{\LWR@HTML@capitaldotaccent}[1]{\#1\HTMLunicode{307}}

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with xunicode.

```

80 \providecommand*{\LWR@HTML@textcircled}[1]{%
81 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{\#1}%
82 }
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}

```

```
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}
```

Nullify `textcomp` macros when generating filenames:

```
99 \FilenameNullify{%
100 \renewcommand*\{\textdegree}{}%
101 \renewcommand*\{\textcelsius}{}%
102 \renewcommand*\{\textohm}{}%
103 \renewcommand*\{\textmu}{}%
104 \renewcommand*\{\textlquill}{}%
105 \renewcommand*\{\textrquill}{}%
106 \renewcommand*\{\textcircledP}{}%
107 \renewcommand*\{\texttwelveudash}{}%
108 \renewcommand*\{\textthreequarteredash}{}%
109 \renewcommand*\{\textmho}{}%
110 \renewcommand*\{\textnaira}{}%
111 \renewcommand*\{\textpeso}{}%
112 \renewcommand*\{\textrecipe}{}%
113 \renewcommand*\{\textinterrobang}{}%
114 \renewcommand*\{\textinterrobangdown}{}%
115 \renewcommand*\{\textperthousand}{}%
116 \renewcommand*\{\textpertenthousand}{}%
117 \renewcommand*\{\textbaht}{}%
118 \renewcommand*\{\textdiscount}{}%
119 \renewcommand*\{\textservicemark}{}%
120 \renewcommand*\{\textcircled}{1}{#1}%
121 \renewcommand*\{\capitalcedilla}{1}{#1}%
122 \renewcommand*\{\capitalogonek}{1}{#1}%
123 \renewcommand*\{\capitalgrave}{1}{#1}%
124 \renewcommand*\{\capitalacute}{1}{#1}%
125 \renewcommand*\{\capitalcircumflex}{1}{#1}%
126 \renewcommand*\{\capitaltilde}{1}{#1}%
127 \renewcommand*\{\capitaldieresis}{1}{#1}%
128 \renewcommand*\{\capitalhungarumlaut}{1}{#1}%
129 \renewcommand*\{\capitalring}{1}{#1}%
130 \renewcommand*\{\capitalcaron}{1}{#1}%
131 \renewcommand*\{\capitalbreve}{1}{#1}%
132 \renewcommand*\{\capitalmacron}{1}{#1}%
133 \renewcommand*\{\capitaldotaccent}{1}{#1}%
134 }% \FilenameNullify
135
136 }% \AtBeginDocument
```

For MATHJAX:

```
137 \CustomizeMathJax{\require{textcomp}}
```

---

### File 492 **l warp-textfit.sty**

#### § 601 Package **textfit**

Pkg **textfit** **textfit** is emulated.

Text is placed into a <span> of class **textfit**. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

```
2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*{\LWR@textfitscale}[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7 1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*{\scaletowidth}[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*{\scaletoheight}[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }
```

---

### File 493 **l warp-textpos.sty**

#### § 602 Package **textpos**

(Emulates or patches code by NORMAN GRAY.)

Pkg **textpos** **textpos** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

```
2 \NewDocumentEnvironment{textblock}{m o r(){}{}}
3 \NewDocumentEnvironment{textblock*}{m o r(){}{}}
4 \newcommand*{\TPGrid}[3][]{}
```

---

```

5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{%
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*{\textblockcolour}[1]{}
9 \newcommand*{\textblockrulecolour}[1]{}
10 \newcommand*{\textblockcolor}[1]{}
11 \newcommand*{\textblockrulecolor}[1]{}
12 \newcommand*{\tekstblokkulur}[1]{}
13 \newcommand*{\tekstblokrulekulur}[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand{\textblocklabel}[1]{}
18 \newcommand*{\showtextsize}{}
19 \newcommand{\textblockorigin}[2]{}
20 \newcommand*{\TPoptions}[1]{}
21 \newcommand*{\TPreferencePosition}[1]{}

```

---

File 494 **l warp-theorem.sty**

§ 603 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg theorem theorem is patched for use by l warp.

---

Table 21: Theorem package—css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

§ 603.1 **Remembering the theorem style**

Storage for the style being used for new theorems:

2 \newcommand{\LWR@newtheoremstyle}{plain}

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4 \@ifundefined{th@#1}{\@warning
5 {Unknown theoremstyle ‘#1’. Using ‘plain’}%
6 \theorem@style{plain}%
7 \renewcommand{\LWR@newtheoremstyle}{plain}%
8 }%
9 }

```

```

10 \theorem@style{#1}%
11 \renewcommand{\LWR@newtheoremstyle}{#1}%
12 }%
13 \begingroup
14 \csname th@\the\theorem@style \endcsname
15 \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

16 \gdef\xnsthm#1#2[#3]{%
17 \expandafter\@ifdefinable\csname #1\endcsname
18 {%
19 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}%
20 \@definecounter{#1}\@newctr{#1}[#3]%
21 \expandafter\xdef\csname the#1\endcsname
22 {\expandafter\noexpand\csname the#3\endcsname
23 \@thmcOUNTERsep \@thmcOUNTER{#1}}%
24 \def\@tempa{\global\@namedef{#1}}%
25 \expandafter\@tempa \expandafter{%
26 \csname th@\the\theorem@style
27 \expandafter\endcsname \the\theorem@bodyfont
28 \@thm{#1}{#2}}%
29 \global \expandafter \let \csname end#1\endcsname \endtheorem
30 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}%
31 }%
32 }
33 \gdef\ynthm#1#2{%
34 \expandafter\@ifdefinable\csname #1\endcsname
35 {%
36 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}%
37 \@definecounter{#1}%
38 \expandafter\xdef\csname the#1\endcsname{\@thmcOUNTER{#1}}%
39 \def\@tempa{\global\@namedef{#1}}\expandafter \attempa
40 \expandafter{\csname th@\the\theorem@style \expandafter
41 \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}%
42 \global \expandafter \let \csname end#1\endcsname \endtheorem
43 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}%
44 }%
45 }
46 \gdef\othm#1[#2]#3{%
47 \expandafter\ifx\csname c@#2\endcsname\relax
48 \nocounterr{#2}%
49 \else
50 \expandafter\@ifdefinable\csname #1\endcsname
51 {%
52 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}%
53 \expandafter\xdef\csname the#1\endcsname
54 {\expandafter\noexpand\csname the#2\endcsname}%
55 \def\@tempa{\global\@namedef{#1}}\expandafter \attempa
56 \expandafter{\csname th@\the\theorem@style \expandafter
57 \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
58 \global \expandafter \let \csname end#1\endcsname \endtheorem
59 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}%
60 }%

```

```
61 \fi}
```

## § 603.2 css patches

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```
62 \gdef\th@plain{%
63 \def\@begintheorem##1##2{%
64 \item[
65 \InlineClass{theoremheader}{##1\ ##2}
66]
67 }%
68 \def\@opargbegintheorem##1##2##3{%
69 \item[
70 \InlineClass{theoremheader}{##1\ ##2\ (###3)}
71]
72 }
73 }
74
75 \gdef\th@break{%
76 \def\@begintheorem##1##2{%
77 \item[
78 \InlineClass{theoremheader}{##1\ ##2}\newline%
79]
80 }%
81 \def\@opargbegintheorem##1##2##3{%
82 \item[
83 \InlineClass{theoremheader}{##1\ ##2\ (###3)}\newline%
84]
85 }
86 }
87
88 \gdef\th@marginbreak{%
89 \def\@begintheorem##1##2{%
90 \item[
91 \InlineClass{theoremheader}{##2 \qquad ##1}\newline%
92]
93 }%
94 \def\@opargbegintheorem##1##2##3{%
95 \item[
96 \InlineClass{theoremheader}{##2 \qquad ##1\ %
97 (###3)}\newline%
98]
99 }
100 }
101
102 \gdef\th@changebreak{%
103 \def\@begintheorem##1##2{%
```

```

104 \item[
105 \InlineClass{theoremheader}{##2\ ##1}\newline
106]
107 }
108 \def\@opargbegintheorem##1##2##3{%
109 \item[
110 \InlineClass{theoremheader}{ ##2\ ##1\ %
111 (###3)}\newline
112]
113 }
114 }
115
116 \gdef\th@change{%
117 \def\@begintheorem##1##2{%
118 \item[
119 \InlineClass{theoremheader}{##2\ ##1}
120]
121 }%
122 \def\@opargbegintheorem##1##2##3{%
123 \item[
124 \InlineClass{theoremheader}{##2\ ##1\ (###3)}
125]
126 }
127 }
128
129 \gdef\th@margin{%
130 \def\@begintheorem##1##2{%
131 \item[
132 \InlineClass{theoremheader}{##2 \qquad ##1}
133]
134 }%
135 \def\@opargbegintheorem##1##2##3{%
136 \item[
137 \InlineClass{theoremheader}{##2 \qquad ##1\ (###3)}
138]
139 }
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% l warp
143 \LWR@printpendingfootnotes% l warp
144 \BlockClass{theorembody}\LWR@thisthmstyle}% l warp
145 \trivlist
146 \@topsep \theorempreskipamount % used by first \item
147 \@topsepadd \theorempostskipamount % used by \endparenv
148 \@ifnextchar [%
149 {\@ythm{#1}{#2}}%
150 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
151
152 \gdef\@endtheorem{%
153 \endtrivlist

```

---

```

154 \LWR@printpendingfootnotes%
155 \endBlockClass
156 }

```

---

File 495 **l warp-thinsp.sty**

§ 604 Package **thinsp**

Pkg thinsp thinsp is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```

2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*\{\thinthinspace}{\thinspace}
5 }
6
7 \newcommand*\{\stretchthinspace}{\thinspace}
8 \newcommand*\{\stretchthinthinspace}{\thinthinspace}
9 \newcommand*\{\stretchnegthinspace}{\negthinspace}

```

---

File 496 **l warp-thm-listof.sty**

§ 605 Package **thm-listof**

(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)

Pkg thm-listof thm-listof is part of thmtools, and is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use css per amsthm or ntheorem.

Other thm-\* package may be loaded by thm-listof.

```

2 \@ifpackagelater{thm-listof}{2020/08/01}{% v0.72
3 \def\thmtlo@newentry{%
4 \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
5 }
6 }{% earlier than v0.72
7 \xpatchcmd{\listoftheorems}{%
8 {%
9 \xa\protected\edef\csname l@\thmt@envname\endcsname{%
10 \nx\dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}}%
11 }%
12 }{%
13 \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
14 }

```

---

```

15 }
16 {}
17 {\LWR@patcherror{thm-listof}{listoftheorems}}
18
19 \xpatchcmd{\thmt@mklistcmd}
20 {%
21 \@xa\protected@edef\csname l@\thmt@envname\endcsname{%
22 \nx@\dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}%
23 }%
24 }
25 {%
26 \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27 }
28 {}
29 {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}
30 }

```

---

File 497 **l warp-thm-restate.sty**

§ 606 Package **thm-restate**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thm-restate thm-restate is part of thmtools, and is patched for use by l warp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

2 \xpatchcmd{\thmt@restatable}
3 {\ifstar}
4 {\edef\LWR@thisthmstyle{#2}\ifstar}
5 {}
6 {\LWR@patcherror{thm-restate}{thmt@restatable}}

```

---

File 498 **l warp-thmbox.sty**

§ 607 Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

Pkg thmbox thmbox is emulated for use by l warp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

2 \renewenvironment{thmbox}[2][]{%
3 {%
4 \begin{BlockClass}{thmbox}
5 \begin{BlockClass}{thmboxtitle}
6 #2
7 \end{BlockClass}
8 }

```

---

```

9 {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][]
12 {%
13 \begin{BlockClass}{thmboxproof}%
14 \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,,:}
15 }
16 {%
17 \qquad\!HTMLunicode{220E}% end of proof symbol
18 \end{BlockClass}
19 }
20
21 \renewenvironment{example}[1][\examplename]%
22 {%
23 \begin{BlockClass}{thmboxexample}%
24 \InlineClass{thmboxexamplename}{#1\,,:}
25 }
26 {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][]%
29 {\begin{BlockClass}{thmboxleftbar}}
30 {\end{BlockClass}}

```

---

File 499 **l warp-thmtools.sty**

§ 608 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thmtools thmtools is patched for use by l warp.

Also see thm-listof and thm-restate.

for HTML output: 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3 \InlineClass{amsthmnumbertheorem}{\NUMBER}
4 \
5 \InlineClass{amsthmnametheorem}{\NAME}
6 \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 500 **l warp-threadcol.sty**

§ 609 Package **threadcol**

Pkg threadcol threadcol is ignored.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]
2 \newcommand{\setthreadname}[1]{}
```

---

File 501 **l warp-threeparttable.sty**

§ 610 Package **threeparttable**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg threeparttable threeparttable is emulated.

Table note are contained inside a css <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional css <span> of class tnoteitemheader, otherwise they are plain text.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]
```

```
Env threeparttable [$\langle alignment \rangle$]
2 \newenvironment*{threeparttable}[1][b]
3 {\def\@captype{table}}
4 }
```

```
Env tablenotes [$\langle options \rangle$]
5 \newenvironment*{tablenotes}[1] []
6 {%
7 \LWR@forcenewpage
8 \BlockClass{tnotes}%
9 \description%
10 }
11 {%
12 \enddescription%
13 \endBlockClass%
14 }
```

```
\tnote { $\langle text \rangle$ }
15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}
```

```
Env measuredfigure [$\langle alignment \rangle$]
16 \newenvironment*{measuredfigure}[1][t]
17 {\def\@captype{figure}}
18 }
```

---

File 502 **lwarp-threeparttablex.sty**

§ 611      Package **threeparttablex**

Pkg threeparttablex threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```
\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
... table contents ...
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, lwarp guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output** 1 \LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]

The width is guessed depending on the number of columns, then limited to a min/max.

```
2 \renewcommand\insertTableNotes{%
3 \setlength{\LWR@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4 \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5 \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6 \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7 \parbox{\LWR@templengthone}{%
8 \begin{tablenotes}[\TPTL@optarg]%
9 \TPTL@font%
10 \TPTL@body%
11 \end{tablenotes}%
12 }%
13 }%
14 }
```

```
15 \providecommand{\TPTL@tnotex}{}
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}
```

---

**File 503 l warp-thumb.sty****§ 612 Package thumb**

Pkg thumb thumb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

```
2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

---

**File 504 l warp-thumbs.sty****§ 613 Package thumbs**

Pkg thumbs thumbs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```
2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbssoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}

```

**File 505 l warp-tikz.sty****§ 614 Package tikz**

(Emulates or patches code by TILL TANTAU.)

Pkg tikz tikz is supported.

- ⚠ **displaymath and matrices** If using display math with `tikzpicture` or `\tikz`, along with matrices with the & character, the document must be modified as follows:

---

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

Accept all options for l warp-tikz:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** l warp changes the catcode of \$ for its own use. The Tikz babel library temporarily changes catcodes back to normal for Tikz's use. tikz v3.0.0 introduced the babel library which handles catcode changes. For older versions, l warp must change \$'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```
2 \newbool{\LWR@tikzbabel}
3
4 \@ifpackagelater{tikz}{2013/12/20}%
5 {\usetikzlibrary{babel}\booltrue{\LWR@tikzbabel}}
6 {\boolfalse{\LWR@tikzbabel}}
```

**Env pgfpicture** The \pgfpicture environment is enclosed inside a \latextimage. Enclose the low-level \pgfpicture in a latextimage. This is also used by the higher-level \tikz and tikzpicture.

```
7 \preto\pgfpicture{%
8 \begin{latextimage}[-tikz-\~\PackageDiagramAltText]%
9 \ifbool{\LWR@tikzbabel}%
10 {}%
11 {\catcode`\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{latextimage}}
```

Tikz is placed inside an svg image, so use the original meanings of the following:

```
15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
```

```
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}
```

---

**File 506 l warp-tikz-imagelabels.sty****§ 615 Package tikz-imagelabels**

(Emulates or patches code by TOBIAS PLÜSS.)

Pkg tikz-imagelabels tikz-imagelabels is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]

```
2 \BeforeBeginEnvironment{annotationimage}{%
3 \begin{latentimage}[-tikz-imagelabels-\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{latentimage}}
```

---

**File 507 l warp-titleps.sty****§ 616 Package titleps**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titleps titleps is loaded and used by l warp during HTML output. All user options and macros are ignored and disabled.

Discard all options for l warp-titleps:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titleps}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the l warp code.

```
\newpagestyle {\langle name\rangle } [\langle style\rangle] {\langle commands\rangle }
2 \NewDocumentCommand{\newpagestyle}{m o m}{}{}
```

```
\renewpagestyle {\langle name\rangle } [\langle style\rangle] {\langle commands\rangle }
3 \NewDocumentCommand{\renewpagestyle}{m o m}{}{}
```

```
\sethead [⟨el⟩] [⟨ec⟩] [⟨er⟩] {⟨ol⟩} {⟨oc⟩} {⟨or⟩}
4 \NewDocumentCommand{\sethead}{o o o m m m}{}{}
```

```
\setfoot [\langle el\rangle] [\langle ec\rangle] [\langle er\rangle] {\langle ol\rangle} {\langle oc\rangle} {\langle or\rangle}
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}

\settlemarks * {\langle names\rangle}
6 \NewDocumentCommand{\settlemarks}{s m}{}

\headrule
7 \newcommand*{\headrule}{}

\footrule
8 \newcommand*{\footrule}{}

\setheadrule {\langle length\rangle}
9 \newcommand*{\setheadrule}[1]{}

\setfootrule {\langle length\rangle}
10 \newcommand*{\setfootrule}[1]{}

\makeheadrule
11 \newcommand*{\makeheadrule}{}

\makefootrule
12 \newcommand*{\makefootrule}{}

\setmarkboth {\langle code\rangle}
13 \newcommand{\setmarkboth}[1]{}

\widenhead
14 \NewDocumentCommand{\widenhead}{s o o m m}{}

\bottlemarks
15 \newcommand*{\bottlemarks}{}

\toptlemarks
16 \newcommand*{\toptlemarks}{}

\firstrulemarks
17 \newcommand*{\firstrulemarks}{}

```

```
\nexttitlemarks
18 \newcommand{\nexttitlemarks}{}{}

\outertitlemarks
19 \newcommand{\outertitlemarks}{}{}

\innertitlemarks
20 \newcommand{\innertitlemarks}{}{}

\newtitlemark * {\langle name\rangle}
21 \NewDocumentCommand{\newtitlemark}{s m}{}{}

\pretitlemark * {\langle section\rangle} {\langle text\rangle}
22 \NewDocumentCommand{\pretitlemark}{s m m}{}{}

\ifsamemark {\langle group\rangle} {\langle command\rangle} {\langle true\rangle} {\langle false\rangle}
23 \newcommand{\ifsamemark}[4]{}{}

\setfloathead * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {\langle extra\rangle} [⟨which⟩]
24 \NewDocumentCommand{\setfloathead}{s o o o m m m m}{}{}

\setfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {\langle extra\rangle} [⟨which⟩]
25 \NewDocumentCommand{\setfloatfoot}{s o o o m m m m}{}{}

\nextfloathead * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {\langle extra\rangle} [⟨which⟩]
26 \NewDocumentCommand{\nextfloathead}{s o o o m m m m}{}{}

\nextfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {\langle extra\rangle} [⟨which⟩]
27 \NewDocumentCommand{\nextfloatfoot}{s o o o m m m m}{}{}

\newmarkset {\langle markset\rangle}
28 \newcommand{\newmarkset}[1]{}{}

\newextramark * {\langle markset\rangle} {\langle macro-name\rangle}
29 \NewDocumentCommand{\newextramark}{s m m}{}{}

\botextramarks {\langle markset\rangle}
30 \newcommand{\botextramarks}[1]{}{}
```

---

```
\topextramarks {⟨markset⟩}
31 \newcommand{\topextramarks}[1]{}

\firstextramarks {⟨markset⟩}
32 \newcommand{\firstextramarks}[1]{}

\nextextramarks {⟨markset⟩}
33 \newcommand{\nexttopextramarks}[1]{}

\outerextramarks {⟨markset⟩}
34 \newcommand{\outerextramarks}[1]{}

\innerextramarks {⟨markset⟩}
35 \newcommand{\innerextramarks}[1]{}
```

---

File 508 **l warp-titleref.sty**

§ 617      Package **titleref**

Pkg titleref **titleref** is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8 \addtocounter{LWR@currenttitle}{1}%
9 \label{currenttitle}\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle}\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}
```

---

File 509 **l warp-titlesec.sty**

§ 618      Package **titlesec**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titlesec **titlesec** is emulated. All user options and macros are ignored and disabled.

Discard all options for **l warp-titlesec**:

```
for HTML output: 1 \PackageInfo{l warp}{Using the l warp version of package 'titlesec'.}%
 2 \ProvidesPackage{l warp-titlesec}[2016/03/21]
 3
 4 \newbool{LWR@loadtitleps}
 5 \boolfalse{LWR@loadtitleps}
 6
 7 \DeclareOption{pagestyles}{
 8 \booltrue{LWR@loadtitleps}
 9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitleps}{
16 \RequirePackage{l warp-titleps}
17 }{}

\titelabel {\langle label-format\rangle}
18 \newcommand*{\titelabel}[1]{}

\titelformat* {\langle command\rangle} {\langle format\rangle}

\titelformat {\langle command\rangle} [\langle shape\rangle] {\langle format\rangle} {\langle label\rangle} {\langle sep\rangle} {\langle begfore\rangle} [\langle after\rangle]
19 \newcommand\titelformat{%
20 @ifstar{\ttl@format@s}{%
21 {\ttl@format@i}}}
22 \newcommand{\ttl@format@s}[1]{}
23 \NewDocumentCommand{\ttl@format@i}{m o m m m m o}{}

\chaptertitlename
24 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
25 \newcommand\chaptertitlename{\@chapapp}

\titlespacing * {\langle command\rangle} {\langle left\rangle} {\langle before\rangle} {\langle after\rangle} [\langle right\rangle]
26 \NewDocumentCommand{\titlespacing}{s m m m m o}{}

\filright
27 \newcommand*{\filright}{}

\filcenter
28 \newcommand*{\filcenter}{}

\filleft
29 \newcommand*{\filleft}{}
```

```

\fillast
30 \newcommand*\{\fillast\}{}{ }

\filinner
31 \newcommand*\{\filinner\}{}{ }

\filouter
32 \newcommand*\{\filouter\}{}{ }

\wordsep
33 \newcommand\wordsep{\fontdimen\tw@\font \oplus
34 \fontdimen\thr@@\font \ominus \fontdimen4\font}

\titlename * [\langle align\rangle] {\langle material\rangle}
35 \NewDocumentCommand{\titlename}{s o m}{}{ }

\titlerule [\langle height\rangle]
36 \providecommand*\titlerule{@ifstar{\@ttitle@row}{\@ttitle@rule}}
37 \newcommand*\{\@ttitle@rule\}[1][]{}
38 \newcommand*\{\@ttitle@row\}[2][]{}

\iftitlemeasuring {\langle true\rangle} {\langle false\rangle}
39 \newcommand{\iftitlemeasuring}[2]{#2}{}

\assignpagestyle {\langle command\rangle} {\langle pagestyle\rangle}
40 \newcommand{\assignpagestyle}[2]{#2}{}

\titleclass {\langle name\rangle} [\langle startlevel\rangle] {\langle class\rangle} [\langle cmd\rangle]
41 \NewDocumentCommand{\titleclass}{m o m o}{}{ }

```

---

### File 510 l warp-titletoc.sty

#### § 619 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titletoc titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for l warp-titletoc:

for HTML output 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

```
\dottedcontents {\langle section\rangle} [\langle left\rangle] {\langle above\rangle} {\langle label\rangle} {\langle leader\rangle}
 2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}{}

\titlecontents * {\langle section\rangle} [\langle left\rangle] {\langle above\rangle} {\langle numbered\rangle} {\langle numberless\rangle} {\langle filler\rangle} [\langle below or
begin\rangle] [\langle separator\rangle] [\langle end\rangle]
 3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}
 4 \NewDocumentCommand{\ttl@tcstar}{m o m m m m o o o}{}{}
 5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o}{}{}

\contentsmargin [\langle correction\rangle] {\langle right\rangle}
 6 \newcommand{\contentsmargin}[2][]{}

\thecontentslabel
 7 \newcommand*{\thecontentslabel}{\thecontentslabel}

\thecontentspage
 8 \newcommand*{\thecontentspage}{\thecontentspage}

\contentslabel [\langle format\rangle] {\langle space\rangle}
 9 \newcommand{\contentslabel}[2][]{\thecontentslabel}

\contentspage [\langle format\rangle]
 10 \newcommand{\contentspage}[1][]{\thecontentspage}

\contentspush {\langle text\rangle}
 11 \newcommand{\contentspush}[1]{{}}
```

  

```
\contentsuse {\langle name\rangle} {\langle text\rangle}
 12 \newcommand{\contentsuse}[2]{{}}
```

  

```
\startcontents [\langle name\rangle]
 13 \newcommand*{\startcontents}[1][]{}
```

  

```
\stopcontents [\langle name\rangle]
 14 \newcommand*{\stopcontents}[1][]{}
```

  

```
\resumecontents [\langle name\rangle]
 15 \newcommand*{\resumecontents}[1][]{}
```

---

```
\printcontents [<name>] {<prefix>} {<start>} {<code>}
16 \newcommand{\printcontents}[4][]{}

\startlist [<name>] {<list>}
17 \newcommand{\startlist}[2][]{}

\stoplist [<name>] {<list>}
18 \newcommand{\stoplist}[2][]{}

\resumelist [<name>] {<list>}
19 \newcommand{\resumelist}[2][]{}

\printlist [<name>] {<list>} {<prefix>} {<code>}
20 \newcommand{\printlist}[4][]{}

```

File 511 **l warp-titling.sty**

§ 620 Package **titling**

*(Emulates or patches code by PETER WILSON.)*

Pkg titling

**package support** l warp supports the native LATEX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.  
**⚠ load order**

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 69.8.

The various titling footnote restyling commands have no effect.

Pass all options to l warp-titling:

**for HTML output:** 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

\@bsmtitleempty Patch \@bsmtitleempty:

```
2 \let\LWR@orig@bsmtitleempty\@bsmtitleempty
3 \renewcommand*\@bsmtitleempty{%
4 \LWR@orig@bsmtitleempty%
5 }
```

\keepthetitle Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*\keepthetitle{%
8 \LWR@orig@keepthetitle%
9 }
```

\killtitle Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*\killtitle{%
12 \LWR@orig@killtitle%
13 }
```

Env titlingpage

```
14 \renewenvironment*{titlingpage}%
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of \maketitle inside the titlingpage:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the pre/post title/author/date to add HTML tags, then initialize:

```
24 \AtBeginDocument{
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
33 }
```

\LWR@maketitlesetup Patches \thanks macros.

```
34 \renewcommand*\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
35 \def\@makefnmark{\@thefnmark}%
```

```
\thefootnote \Rightarrow \nameuse{arabic}{footnote}, or
\thefootnote \Rightarrow \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
36 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
37 \makethanksmark~%
```

```
\makethanksmark \thanksfootmark \tmark \athefnmark \itshape a (or similar)
```

Print the text:

```
38 {##1}%
39 }% \@makefntext
40 }
```

\thanksfootmark

```
41 \renewcommand{\thanksfootmark}{%
42 % \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43 % \thanksscript{%
44 % \thanksfootpre \tmark \thanksfootpost%
45 % }%
46 % }%
47 }
```

\maketitle HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the `titling` package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*{\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any \thanks footnotes:

```
53 \LWR@stopars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

\@maketitle Typesets the title, etc. Patched for HTML.

```
57 \providecommand*\@maketitle(){}
58 \renewrobustcmd{\@maketitle}{%
59 \maketitlehooka
60 {
61 \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
62 \@bspretitle \@title \@bsposttitle%
63 \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
64 }
65 \maketitlehookb
66 {
67 \begin{BlockClass}{author}
68 \renewcommand{\and}{%
69 \end{BlockClass}%
70 \begin{BlockClass}{oneauthor}%
71 }
72 \begin{BlockClass}{oneauthor}%
73 \@bspreauthor \@author \@bspostauthor%
74 \end{BlockClass}%
75 \end{BlockClass}%
76 }
77 \maketitlehookc
78 {
79 \begin{BlockClass}{titledate}%
80 \@bspredate \@date \@bspostdate%
81 \end{BlockClass}%
82 }
83 \maketitlehookd
84 }
```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
85 \renewcommand*\LWR@titlingmaketitle{%
```

Keep pending footnotes out of the title block:

```
86 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
87 \@bsmarkseries
```

Set up special patches:

```
88 \LWR@maketitlesetup
```

Typeset the title, etc:

```
89 \@maketitle
```

Immediately generate any \thanks footnotes:

```
90 \LWR@stopars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
91 \@bscontmark
92 }
```

\thanksmarkseries {⟨series⟩}

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fn-symbol’, etc.

```
93 \renewcommand{\thanksmarkseries}[1]{%
94 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
95 }
```

Set default titlepage thanks footnote marks. See section 69.7.

```
96 \@ifclassloaded{memoir}{
97 \thanksmarkseries{arabic}
98 }{% not memoir
99 \if@titlepage
100 \thanksmarkseries{arabic}
101 \else
102 \thanksmarkseries{fnsymbol}
103 \fi
104 }% not memoir
```

---

## File 512 lwarf-tocbasic.sty

### § 621 Package **tocbasic**

(Emulates or patches code by MARKUS KOHM.)

Pkg tocbasic tocbasic is nullified for lwarf.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output 1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

---

```

2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{}
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}

```

---

File 513 **lwarf-tocbibind.sty**

§ 622 Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

Pkg **tocbibind** **tocbibind** is patched for use by **lwarf**.

**placement and toc options** An index may be placed inline with other HTML text, or on its own HTML page:

Pkg **makeidx** **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```

\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\printindex

```

Pkg **makeidx** **On its own HTML page, with a manual toc entry:**

```

\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex

```

Pkg **tocbibind** **Inline, with an automatic toc entry:**

The **tocbibind** package may be used to automatically place an entry in the toc.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

Pkg tocbibind **On its own HTML page, with an automatic TOC entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex **numbered index section** Use the `tocbibind numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

**for HTML output:**

```
1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6 \if@bibchapter
7 \if@donumindex
8 \chapter{\indexname}
9 \else
10 \if@dotocind
11 \chapter*{\indexname}
12 \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13 \else
14 \chapter*{\indexname}
15 \fi
16 \fi
17 \else
18 \if@donumindex
19 \section{\indexname}
20 \else
21 \if@dotocind
22 \section*{\indexname}
23 \addcontentsline{toc}{@tocextra}{\LWR@isolate{\indexname}}
24 \else
25 \section*{\indexname}
26 \fi
27 \fi
28 \fi
29 \LetLtxMacro\item\LWR@indexitem%
30 \LetLtxMacro\subitem\LWR@indexsubitem%
31 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
32 }{}
```

The following code is shared by `anonchap`.

```
33 \DeclareDocumentCommand{\simplechapter}{O{\emptyset}}{%
34 \def\@chapcntformat##1{%
35 #1\csname the##1\endcsname\simplechapterdelim\quad%
```

```
36 }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@secCntFormat%
41 }
```

---

File 514 **l warp-tocdata.sty**

§ 623      Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

Pkg tocdata tocdata is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```
2 \renewcommand*{\LWR@maybetocdata}{%
3 \ifdefempty{\TD@thistocdata}{}{%
4 \qquad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}{%
5 \def\TD@thistocdata{}%
6 }%
7 }%
8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10 \InlineClass{authorartist}{%
11 \qquad --- %
12 \TDoptionalnameprint{\#1}\TDoptionalnameprint{\#2}\#3\#4%
13 }%
14 }%
15
16 \@ifundefined{chapter}{}{%
17 \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*{\LWR@TD@settextalign}[1]{%
23 \def\LWR@TD@textalign{justify}%
24 \ifcsstring{TD@#1align}{\centering}%
25 {\def\LWR@TD@textalign{center}}%
26 {}%
27 \ifcsstring{TD@#1align}{\raggedleft}%
28 {\def\LWR@TD@textalign{right}}%
29 {}%
30 \ifcsstring{TD@#1align}{\raggedright}%
31 {\def\LWR@TD@textalign{left}}%
32 {}%
33 }%
34
35 \renewcommand{\TD@istaauthorprint}[5]{%
```

---

```

36 \LWR@TD@settextalign{#1}%
37 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38 \InlineClass{authorartist}{\TOptionalnameprint{#2}\TOptionalnameprint{#3}#4#5}%
39 \end{BlockClass}%
40 }
41
42 \newcommand*{\LWR@TD@setnamealign}[1]{%
43 \def\LWR@TD@textalign{justify}%
44 \ifcsstring{TD@#1textalign}{\centering}%
45 {\def\LWR@TD@textalign{center}}%
46 {}%
47 \ifcsstring{TD@#1textalign}{\raggedleft}%
48 {\def\LWR@TD@textalign{right}}%
49 {}%
50 \ifcsstring{TD@#1textalign}{\raggedright}%
51 {\def\LWR@TD@textalign{left}}%
52 {}%
53 }
54
55 \renewcommand{\TArtisauthortextprint}[2]{%
56 \LWR@TD@setnamealign{#1}%
57 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58 #2%
59 \end{BlockClass}%
60 }

```

---

#### File 515 **l warp-tocenter.sty**

##### § 624 Package **tocenter**

Pkg **tocenter** **tocenter** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

```

2 \NewDocumentCommand{\ToCenter}{s o m m}{}%
3 \NewDocumentCommand{\FromMargins}{s o m m m m}{}%

```

---

#### File 516 **l warp-tocloft.sty**

##### § 625 Package **tocloft**

(Emulates or patches code by PETER WILSON.)

Pkg **tocloft** **tocloft** is emulated. Most user options and macros are ignored and disabled. **\newlistof** and **\cftchapterprecis** are supported.

Pkg **tocloft** If using **tocloft** with **tocbibind**, **anonchap**, **fncychap**, or other packages which change chapter title formatting, load **tocloft** with its **titles** option, which tells **tocloft** to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

⚠ **tocloft & other packages**

Discard all options for `lwarp-tocloft`:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

```
\tocloftpagestyle {\langle style\rangle}
2 \newcommand{\tocloftpagestyle}[1]{}
```

```
\cftmarktoc
3 \newcommand*{\cftmarktoc}{}{}
```

```
\cfttoctitlefont
4 \newcommand*{\cfttoctitlefont}{}{}
```

```
\cftaftertoctitle
5 \newcommand*{\cftaftertoctitle}{}{}
```

  

```
6 \newlength{\cftbeforetoctitleskip}
7 \newlength{\cftaftertoctitleskip}
```

```
\cftmarklof
8 \newcommand*{\cftmarklof}{}{}
```

```
\cftloftitlefont
9 \newcommand*{\cftloftitlefont}{}{}
```

```
\cftafterloftitle
10 \newcommand*{\cftafterloftitle}{}{}
```

  

```
11 \newlength{\cftbeforeloftitleskip}
12 \newlength{\cftafterloftitleskip}
```

```
\cftmarklot
13 \newcommand*{\cftmarklot}{}{}
```

```
\cftlottitlefont
14 \newcommand*{\cftlottitlefont}{}{}
```

```
\cftafterlottitle
15 \newcommand*{\cftafterlottitle}{}{}
```

  

```
16 \newlength{\cftbeforelottitleskip}
17 \newlength{\cftafterlottitleskip}
```

```
\cftdot
18 \providecommand*\cftdot{}{.}

\cftdotsep
19 \providecommand*\cftdotsep{}{1}

\cftnodots
20 \providecommand*\cftnodots{}{5000}

\cftdotfill {⟨sep⟩}
21 \providecommand{\cftdotfill}[1]{}

\cftsetpnumwidth {⟨length⟩}
22 \DeclareDocumentCommand{\cftsetpnumwidth}{m}{}

\cftsetrmargin {⟨length⟩}
23 \DeclareDocumentCommand{\cftsetrmargin}{m}{}

\cftpnumalign {⟨alignment⟩}
24 \DeclareDocumentCommand{\cftpnumalign}{m}{}

25 \LWR@providelength{\cftparskip}
```

The part-related items are also provided by memoir:

```
26 \LWR@providelength{\cftbeforeparts skip}
27 \LWR@providelength{\cftp indent}
28 \LWR@providelength{\cftp partnumwidth}
29 \providecommand*\cftp partfont{}
30 \providecommand*\cftp partpresnum{}
31 \providecommand*\cftp partaftersnum{}
32 \providecommand*\cftp partaftersnumb{}
33 \providecommand*\cftp partleader{}
34 \providecommand*\cftp partdotsep{}{1}
35 \providecommand*\cftp partpagefont{}
36 \providecommand*\cftp partafterpnum{}}
```

memoir uses the full name “chapter” instead of “chap”:

```
37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchap indent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont{}
41 \newcommand*\cftchappresnum{}
42 \newcommand*\cftchapaftersnum{}}
```

The following do not appear in memoir:

```
48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*{\cftsecfont}{}
52 \newcommand*{\cftsecpresnum}{}
53 \newcommand*{\cftsecaftersnum}{}
54 \newcommand*{\cftsecaftersnumb}{}
55 \newcommand*{\cftsecleader}{}
56 \newcommand*{\cftsecdotsep}{1}
57 \newcommand*{\cftsecpagelayout}{}
58 \newcommand*{\cftsecafterpnum}{}

59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*{\cftsubsecfont}{}
63 \newcommand*{\cftsubsecpresnum}{}
64 \newcommand*{\cftsubsecaftersnum}{}
65 \newcommand*{\cftsubsecaftersnumb}{}
66 \newcommand*{\cftsubsecleader}{}
67 \newcommand*{\cftsubsecdotsep}{1}
68 \newcommand*{\cftsubsecpagelayout}{}
69 \newcommand*{\cftsubsecafterpnum}{}

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*{\cftsubsubsecfont}{}
74 \newcommand*{\cftsubsubsecpresnum}{}
75 \newcommand*{\cftsubsubsecaftersnum}{}
76 \newcommand*{\cftsubsubsecaftersnumb}{}
77 \newcommand*{\cftsubsubsecleader}{}
78 \newcommand*{\cftsubsubsecdotsep}{1}
79 \newcommand*{\cftsubsubsecpagelayout}{}
80 \newcommand*{\cftsubsubsecafterpnum}{}

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparraindent}
83 \LWR@providelength{\cftparranumwidth}
84 \newcommand*{\cftparrafont}{}
85 \newcommand*{\cftparrapresnum}{}
86 \newcommand*{\cftparraaftersnum}{}
87 \newcommand*{\cftparraaftersnumb}{}
88 \newcommand*{\cftparraleader}{}
89 \newcommand*{\cftparradotsep}{1}
90 \newcommand*{\cftparrapagelayout}{}
91 \newcommand*{\cftparraafterpnum}{}
```

```
92 \LWR@provide length{\cftbefore subpara skip}
93 \LWR@provide length{\cftsub para indent}
94 \LWR@provide length{\cftsub para num width}
95 \newcommand*{\cftsub para font} {}
96 \newcommand*{\cftsub para presnum} {}
97 \newcommand*{\cftsub para after snum} {}
98 \newcommand*{\cftsub para after snum b} {}
99 \newcommand*{\cftsub para leader} {}
100 \newcommand*{\cftsub para dotsep}{1}
101 \newcommand*{\cftsub para page font} {}
102 \newcommand*{\cftsub para after pnum} {}

103 \LWR@provide length{\cft before fig skip}
104 \LWR@provide length{\cftfig indent}
105 \LWR@provide length{\cftfig num width}
106 \newcommand*{\cftfig font} {}
107 \newcommand*{\cftfig presnum} {}
108 \newcommand*{\cftfig after snum} {}
109 \newcommand*{\cftfig after snum b} {}
110 \newcommand*{\cftfig leader} {}
111 \newcommand*{\cftfig dotsep}{1}
112 \newcommand*{\cftfig page font} {}
113 \newcommand*{\cftfig after pnum} {}

114 \LWR@provide length{\cft before subfig skip}
115 \LWR@provide length{\cftsub fig indent}
116 \LWR@provide length{\cftsub fig num width}
117 \newcommand*{\cftsub fig font} {}
118 \newcommand*{\cftsub fig presnum} {}
119 \newcommand*{\cftsub fig after snum} {}
120 \newcommand*{\cftsub fig after snum b} {}
121 \newcommand*{\cftsub fig leader} {}
122 \newcommand*{\cftsub fig dotsep}{1}
123 \newcommand*{\cftsub fig page font} {}
124 \newcommand*{\cftsub fig after pnum} {}

125 \LWR@provide length{\cft before tabs skip}
126 \LWR@provide length{\cfttab indent}
127 \LWR@provide length{\cfttab num width}
128 \newcommand*{\cfttab font} {}
129 \newcommand*{\cfttab presnum} {}
130 \newcommand*{\cfttab after snum} {}
131 \newcommand*{\cfttab after snum b} {}
132 \newcommand*{\cfttab leader} {}
133 \newcommand*{\cfttab dotsep}{1}
134 \newcommand*{\cfttab page font} {}
135 \newcommand*{\cfttab after pnum} {}

136 \LWR@provide length{\cft before sub tabs skip}
137 \LWR@provide length{\cftsub tab indent}
138 \LWR@provide length{\cftsub tab num width}
139 \newcommand*{\cftsub tab font} {}
140 \newcommand*{\cftsub tab presnum} {}
141 \newcommand*{\cftsub tab after snum} {}
142 \newcommand*{\cftsub tab after snum b} {}
```

```

143 \newcommand*{\cftsubtableleader}(){}
144 \newcommand*{\cftsubtabdotsep}{1}
145 \newcommand*{\cftsubtabpagefont}{}
146 \newcommand*{\cftsubtabafterpnum}{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m} {}

148 \providecommand{\cftpagenumbersoff}[1]{}
149 \providecommand{\cftpagenumberson}[1]{}

\newlistentry [\langle within\rangle] {\langle counter\rangle} {\langle ext\rangle} {\langle level-1\rangle}
150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155 \@ifundefined{c@#2}{%
156 \newcounter{#2}[#1]%
157 \expandafter\edef\csname the#2\endcsname{%
158 \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159 }%
160 }{%
161 }%
162 {%
163 \@ifundefined{c@#2}{%
164 \newcounter{#2}%
165 }{%
166 }%
167 \namedef{l@#2}##1##2{%
168 \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169 \def\cftwhatismyname{#2} from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \namedef{cft#2font}{}%
175 \namedef{cft#2presnum}{}%
176 \namedef{cft#2aftersnum}{}%
177 \namedef{cft#2aftersnumb}{}%
178 \namedef{cft#2leader}{}%
179 \namedef{cft#2dotsep}{1}%
180 \namedef{cft#2pagefont}{}%
181 \namedef{cft#2afterpnum}{}%
182 \namedef{toclevel@#2}{#4}%
183 \namedef{cft#2fillnum}{#1}%
184 \LWR@traceinfo{newlistentry done}%
185 }

\newlistof [\langle within\rangle] {\langle type\rangle} {\langle ext\rangle} {\langle listofname\rangle}
Emulated through the \newfloat mechanism.

186 \DeclareDocumentCommand{\newlistof}{o m m m}

```

```

187 {%
188 \IfValueTF{#1}%
189 {\newlistentry[#1]{#2}{#3}{0}}%
190 {\newlistentry[#2]{#3}{0}}%
191 \@namedef{ext@#2}{#3}%
192 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193 \setcounter{#3depth}{1}%
194 \@namedef{cftmark#3}{}%
195 \@namedef{listof#2}{\LWR@listof{#2}{#4}}%
196 \@namedef{@cftmake#3title}{}%
197 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199 \@namedef{cft#3titlefont}{}%
200 \@namedef{cftafter#3title}{}%
201 \@namedef{cft#3prehook}{}%
202 \@namedef{cft#3posthook}{}%
203 }

\cftchapterprecis {\langle text\rangle}

204 \newcommand{\cftchapterprecis}[1]{%
205 \cftchapterprecishere{#1}%
206 \cftchapterprecistoc{#1}%
207 \newcommand{\cftchapterprecishere}[1]{%
208 \begin{quote}\textit{#1}\end{quote}%
209 \newcommand{\cftchapterprecistoc}[1]{%
210 \addtocontents{toc}{%
211 {
212 \protect\begin{quote}\#1\protect\end{quote}%
213 }
214 }

```

File 517 **lwarp-tocstyle.sty**§ 626 Package **tocstyle**

Pkg **tocstyle** **tocstyle** is ignored.

⚠ Not fully tested! [Please send bug reports!](#)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

2 \newcommand*{\usetocstyle}[2][]{}
3 \newcommand*{\deactivatetocstyle}[1][]{}
4 \newcommand*{\reactivatetocstyle}[1][]{}
5 \NewDocumentCommand{\settocfeature}{o o m m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*{\aliastoc}[2]({})
9 \newcommand*{\showtoc}[2]({})
10 \newcommand{\iftocchasdepth}[4]({})

```

---

**File 518 l warp-todo.sty**

§ 627      Package **todo**

*(Emulates or patches code by FEDERICO GARCIA.)*

Pkg todo todo is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

```
2 \renewcommand\todoitem[2]{%
3 \refstepcounter{todo}%
4 \item[%
5 \HTMLUnicode{2610} \quad
6 \ref{todopage:\thetodo}%
7] : {\todoformat\ifx#1\todomark\else\textrm{\#1}\fi}#2%
8 \label{todolbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12 \stepcounter{todo}%
13 \item[%
14 \HTMLUnicode{2611} \quad
15 \ref{todopage:\thetodo}%
16] \nameuse{@done\the\c@todo}:
17 {\todoformat\ifx#1\todomark\else\textrm{\#1}\fi}#2%
18 }
19
20 \xpatchcmd{\@displaytodo}
21 {\todoformat #1}{\todoformat \textbf{#1}}{%
22 {\PackageWarning{l warp-todo}{Unable to patch @displaytodo.}}%
23
24 \xpatchcmd{\@displayfulltodo}
25 {\todoformat #1}{\todoformat \textbf{#1}}{%
26 {\PackageWarning{l warp-todo}{Unable to patch @displayfulltodo.}}%
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{%
29 {\PackageWarning{l warp-todo}{Unable to patch todoenv.}}%
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{%
32 {\PackageWarning{l warp-todo}{Unable to patch astodos.}}%
33
34 \AtBeginDocument{
35 \crefname{todo}{todo}{todos}
36 \Crefname{todo}{Todo}{Todos}
37 }
```

---

File 519 **l warp-todonotes.sty**

§ 628 Package **todonotes**

(Emulates or patches code by HENRIK SKOV MIDTIBY.)

Pkg todonotes todonotes is emulated.

The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

**for HTML output**

```
1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{\textcolor{red}{#1}}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\textcolor{red}{#1}}{\textcolor{red}{#2}}}

8 \let\LWRTODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*{\todototoc}{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
16 \fcolorbox{%
17 \color{todonotes@currentbordercolor}%
18 \color{todonotes@currentbackgroundcolor}%
19 \arabic{@todonotes@numberoftodonotes}%
20 }{%
21 \marginpar{\@todonotes@drawMarginNote}%
22 }%
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorbox{%
25 \color{todonotes@currentbordercolor}%
26 \color{todonotes@currentbackgroundcolor}%
27 \%
28 \if@todonotes@authorgiven%
29 \color{todonotes@author}%
30 \fi%
31 \color{todonotes@text}%
32 }{%
33 }%
34 \renewcommand{\@todonotes@drawMarginNote}{%
35 \if@todonotes@authorgiven%
```

```

37 \atodonotes@author\par%
38 \fi%
39 \arabic{@todonotes@numberoftodonotes}: %
40 \fcolorbox%
41 {\atodonotes@currentbordercolor}%
42 {\atodonotes@currentbackgroundcolor}%
43 {%
44 \atodonotes@sizecommand%
45 \atodonotes@text %
46 }%
47 }%
48
49 \renewcommand{\atodonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\atodonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\atodonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57 {\atodonotes@currentbordercolor}%
58 {\atodonotes@currentfigcolor}%
59 {%
60 \setlength{\fboxrule}{4pt}%
61 \fcolorbox{red}{white}{Missing figure} \quad #2%
62 }%
63 }%
64
65 \LetLtxMacro{\LWRTODONOTES@orig@todo}{\todo}
66
67 \RenewDocumentCommand{\todo}{o m}{%
68 \begingroup%
69 \renewcommand*{\phantomsection}{ }%
70 \IfValueTF{#1}{%
71 \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73 \LWRTODONOTES@orig@todo{#2}%
74 }%
75 \endgroup%
76 }%
77
78 \fi% \if@todonotes@disabled

```

File 520 **lwarf-topcapt.sty**

§ 629 Package **topcapt**

Pkg topcapt **topcapt** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro{\topcaption}{\caption}

---

**File 521 l warp-tram.sty****§ 630 Package tram**

Pkg **tram** **tram** is emulated.

**⚠ block only** The HTML emulation uses a `<div>`, which must not appear inside an HTML `<span>` or an HTML paragraph. For this reason, the `tram` environment should only be used to contain paragraphs inside a `\parbox` or `minipage`. `tram` should not be used to mark up inline text.

To disable `tram`, allowing source compatibility with inline uses:

```
\begin{warpHTML}
\renewenvironment{tram}[1][]{}{}
\end{warpHTML}
```

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

```
2 \newenvironment{tram}[1][]%
3 {\BlockClass[background:lightgray]{tram}}%
4 {\endBlockClass}
```

---

**File 522 l warp-transparent.sty****§ 631 Package transparent**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **transparent** **transparent** is emulated. `\texttransparent` works for inline objects. `\transparent` only works for `\includegraphics`.

**⚠ Not X<sub>E</sub>LA<sub>T</sub>E<sub>X</sub>!** Note that `transparent` does not work with X<sub>E</sub>LA<sub>T</sub>E<sub>X</sub>.

**for HTML output:** 1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

```
2 \newcommand*{\LWR@HTML@transparent}[1]{\edef\LWR@opacity{\#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*{\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{\#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}
```

---

**File 523 l warp-trimclip.sty****§ 632 Package trimclip**

Pkg trimclip trimclip is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows \bgroup / \egroup, and verbatim content.

```
2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}
```

---

**File 524 l warp-trivfloat.sty****§ 633 Package trivfloat**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg trivfloat trivfloat is forced to use the built-in l warp emulation for floats.

To create a new float type and change its name:

---

```
\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}
```

---

Discard all options for l warp-trivfloat. This tells trivfloat not to use floatrow or memoir.

1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}

\tfl@chapter@fix Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `l warp`.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}{}}
```

### § 633.1 Combining `\newfloat`, `\trivfloat`, and `algorithmicx`

For both print and HTML output:

- ⚠ When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.
- ⚠ When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.
- ⚠ When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---

### File 525 `l warp-truncate.sty`

#### § 634 Package `truncate`

Pkg `truncate` `truncate` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

2 \providecommand{\TruncateMarker}{}%
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

---

### File 526 `l warp-turnthepage.sty`

#### § 635 Package `turnthepage`

Pkg `turnthepage` `turnthepage` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

2 \newcommand{\turnthepage}{}%
```

---

File 527 **l warp-twoup.sty**

§ 636 Package **twoup**

Pkg twoup twoup is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]  
2 \newcommand{\cleartolastpage}{}

---

File 528 **l warp-txfonts.sty**

§ 637 Package **txfonts**

(Emulates or patches code by YOUNG RYU.)

Pkg txfonts txfonts is used as-is for SVG math, and is emulated for MATHJAX.  
for HTML output: 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}  
3  
4 \begin{warpMathJax}  
5 \LWR@infoprocessingmathjax{txfonts}  
6  
7 \LWR@mathjax@addgreek@l@up{}{up}  
8 \end{warpMathJax}

---

File 529 **l warp-txgreeks.sty**

§ 638 Package **txgreeks**

(Emulates or patches code by JEAN-FRAN OIS BURNOL.)

Pkg txgreeks txgreeks is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

for HTML output: 1 \LWR@ProvidesPackagePass{txgreeks}[2011/03/16]  
2  
3 \LWR@infoprocessingmathjax{txgreeks}

---

```

4 \LWR@origRequirePackage{l warp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8 \LWR@mathjax@addgreek@l@up{}{}
9 \LWR@mathjax@addgreek@l@it{other}{}%
10 \else% italic lowercase Greek
11 \LWR@mathjax@addgreek@l@it{}{}%
12 \LWR@mathjax@addgreek@l@up{other}{}%
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16 \LWR@mathjax@addgreek@u@it*{}{}%
17 \LWR@mathjax@addgreek@u@up*{other}{}%
18 \LWR@mathjax@addgreek@u@up*{var}{}%
19 \else% upright uppercase Greek
20 \LWR@mathjax@addgreek@u@up*{}{}%
21 \LWR@mathjax@addgreek@u@it*{other}{}%
22 \LWR@mathjax@addgreek@u@it*{var}{}%
23 \fi
24 \end{warpMathJax}

```

---

File 530 **l warp-typearea.sty**

§ 639 Package **typearea**

(Emulates or patches code by MARKUS KOHM.)

Pkg typearea typearea is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]

```

2 \DeclareDocumentCommand{\typearea}{o m}{}%
3 \DeclareDocumentCommand{\recalctypearea}{}{}%
4 \@ifundefined{footoheight}{\newlength\footoheight}{}%
5 \DeclareDocumentCommand{\areaset}{o m m}{}%
6 \DeclareDocumentCommand{\activateareas}{}{}%
7 \DeclareDocumentCommand{\storeareas}{m}{}%
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}%
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}%
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}%
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}%

```

---

**File 531 l warp-typicons.sty****§ 640 Package typicons**

(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)

Pkg typicons typicons is patched for use by l warp.

If \ticon is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

```
2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7 \begin{lateximage}*[typicon][typicon#1]%
8 \begingroup%
9 \LWR@orig@typicon@TI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16 \LetLtxMacro{\symbol}{\LWR@typicon@symbol}%
17 }
18
19 \renewcommand*{\ticon}[1]{%
20 \begin{lateximage}*[#1 icon][typicon#1]%
21 \TI\csname ticon@#1\endcsname%
22 \end{lateximage}%
23 }
24 }
```

---

**File 532 l warp-ulem.sty****§ 641 Package ulem**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg ulem Patched for use by l warp.

**for HTML output:** Use the original package:

1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]

Basic markup commands, using css:

```
2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3 \InlineClass%
4 (text-decoration:underline; text-decoration-skip: auto)%
5 {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10 \InlineClass%
11 (%
12 text-decoration:underline; text-decoration-skip: auto;%
13 text-decoration-style:double%
14)%
15 {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20 \InlineClass%
21 (%
22 text-decoration:underline; text-decoration-skip: auto;%
23 text-decoration-style:wavy%
24)%
25 {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30 \InlineClass%
31 (text-decoration:line-through)%
32 {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37 \InlineClass%
38 (text-decoration:line-through)%
39 {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44 \InlineClass%
45 (%
46 text-decoration:underline;%
47 text-decoration-skip: auto;%
48 text-decoration-style:dashed%
49)%
50 {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
```

```

55 \InlineClass%
56 (%
57 text-decoration:underline;%
58 text-decoration-skip: auto;%
59 text-decoration-style: dotted%
60)%
61 {\dotuline}{\LWR@isolate{\#1}}%
62 }
63 \LWR@formatted{\dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{\#1}\egroup}
68 \LWR@formatted{ULon}

```

### File 533 **l warp-umoline.sty**

§ 642 Package **umoline**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg umoline umoline is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

```

2 \newcommand*{\LWR@HTML@Underline}[1]{%
3 \InlineClass{uline}{\#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8 \InlineClass{sout}{\#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*{\LWR@HTML@Overline}[1]{%
13 \InlineClass{oline}{\#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*{\LWR@HTML@UMOLine}[2]{%
18 \InlineClass{uline}{\#2}%
19 }
20 \LWR@formatted{UMOLine}
21
22 \NewDocumentCommand{\LWR@HTML@UMOspace}{s m o}{\hspace*{\#2}}
23 \LWR@formatted{UMOspace}
24
25 \NewDocumentCommand{\LWR@HTML@UMOnewline}{s}{\newline}
26 \LWR@formatted{UMOnewline}

```

---

File 534 **lwarp-underscore.sty**

§ 643 Package **underscore**

Pkg underscore underscore is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

---

File 535 **lwarp-unicode-math.sty**

§ 644 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg unicode-math unicode-math is supported as-is for HTML with svgmath.

⚠ **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for `pdftotext`, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MATHJAX, especially with the dedicated Greek macros. Symbol macros such as `\symbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

⚠ **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors `upright` and `italic`, but `italic` will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbol` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
```

```
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\sympbb\mathbb}
11 \CustomizeMathJax{\let\sympbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrak\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\symbfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
25 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\symbfup\mathbf}
29 \CustomizeMathJax{\newcommand{\symbfit}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\symbfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\symbfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\symbfscr}[1]{%
34 % \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symbffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symbffrak}[1]{%
39 % \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\symbfsup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symbfsup}[1]{%
44 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symbfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symbfsfit}[1]{%
```

```

49 \% \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{\#1} \% not greek
50 \% }
51
52 \% Duplicates below are commented out.
53 \CustomizeMathJax{\let\sympup\mathrm}
54 \CustomizeMathJax{\let\symbf\mathbf} \% \sympup defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 \% \CustomizeMathJax{\let\symbfit\mathit} \% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60 {\CustomizeMathJax{\let\symsf\symsup}}
61 {
62 \bool_if:NTF \g__um_upsans_bool
63 {\CustomizeMathJax{\let\symsf\symsup}}
64 {\CustomizeMathJax{\let\symsf\symsfit}}
65 }
66 }
67 \ExplSyntaxOff

68 \% \CustomizeMathJax{\let\sympfsup\mathbf} \% not sans
69 \% \CustomizeMathJax{\let\symsfit\mathit} \% not sans
70 \% \CustomizeMathJax{\let\sympfsfit\mathit} \% not bold nor sans
71 \CustomizeMathJax{\let\sympmtt\mathtt}
72 \% \CustomizeMathJax{\let\sympbb\mathbb}
73 \% \CustomizeMathJax{\let\sympbit\mathbb} \% not italic
74 \% \CustomizeMathJax{\let\symscr\mathscr}
75 \% \CustomizeMathJax{\let\sympfscr\mathscr} \% not bold
76 \% \CustomizeMathJax{\let\sympfrak\mathfrak}
77 \CustomizeMathJax{\let\sympffrac\mathbfrac}

```

Some symbol categories defined by `unicode-math`, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{\#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{\#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{\#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{\#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{\#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{\#1}}}

```

`math-style` is one of: `ISO`, `TeX`, `french`, `upright`, or `literal`, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88 {\LWR@mathjax@addgreek@u@up*{}{}}
89 {\LWR@mathjax@addgreek@u@it*{}{}}
90
91 \bool_if:NTF \g__um_upgreek_bool
92 {\LWR@mathjax@addgreek@l@up{}{}}

```

```

93 {\LWR@mathjax@addgreek@l@it{}{}}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{}
97 \LWR@mathjax@addgreek@u@it*{it}{}
98 \LWR@mathjax@addgreek@l@up{up}{}
99 \LWR@mathjax@addgreek@l@it{it}{}
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen{}}
104 \CustomizeMathJax{\let\rparen{}}
105 \CustomizeMathJax{\newcommand{\cubero}{[1]{\,{}}^3\!}\sqrt{\#1}}{}}
106 \CustomizeMathJax{\newcommand{\fourthroot}{[1]{\,{}}^4\!}\sqrt{\#1}}{}}

```

Many `\mathopen`/`\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left`/`\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x027CC}}}\#1}}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}{[1]{\mathinner{\overline{\ulcorner{\#1}\urcorner}}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}{[1]{\mathinner{\underline{\llcorner{\#1}\rlcorner}}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x00305}}}}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x00309}}}}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x0030A}}}}}}}
119 \CustomizeMathJax{\newcommand{\candra}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x00310}}}}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x00312}}}}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x00315}}}}}}}
122 \CustomizeMathJax{\newcommand{\droang}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x0031A}}}}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20D0}}}}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20D1}}}}}}}
125 \CustomizeMathJax{\newcommand{\vertovert}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20D2}}}}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowacc}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20D0}}}}}}}
127 \CustomizeMathJax{\newcommand{\annuity}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20E7}}}}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20E9}}}}}}}
129 \CustomizeMathJax{\newcommand{\asteracc}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20F0}}}}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}{[1]{\mathord{\text{\kern-0.25em\scriptsize\texttt{unicode{x20E8}}}}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x2140}}}}\limits}}
133 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x222F}}}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x2230}}}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x2231}}}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x2232}}}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlclockwise}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x2233}}}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x2232}}}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x27D5}}}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x27D6}}}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x27D7}}}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x27D8}}}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\text{\kern-0.25em\scriptsize\texttt{unicode{x27D9}}}}\limits}}

```

```

144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\backslash\!unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xsbsol}{\mathop{\backslash\!unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\backslash\!unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\backslash\!unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\backslash\!unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\backslash\!unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\backslash\!unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\backslash\!unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\backslash\!unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\backslash\!unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\backslash\!unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\backslash\!unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirlfnint}{\mathop{\backslash\!unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\backslash\!unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rppoint}{\mathop{\backslash\!unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\backslash\!unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npoint}{\mathop{\backslash\!unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\backslash\!unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\backslash\!unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\backslash\!unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\backslash\!unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\backslash\!unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\backslash\!unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\backslash\!unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\backslash\!unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\backslash\!unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\backslash\!unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\backslash\!unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\backslash\!unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\backslash\!unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\backslash\!unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\backslash\!unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\backslash\!unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

## File 536 lwarf-units.sty

## § 645      Package      **units**

(Emulates or patches code by AXEL REICHERT.)

Pkg units units is patched for use by lwarpc.

Values are not styled by css, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

**for HTML output:** I \LWR@ProvidesPackagePass{units}[1998/08/04]

```
\DeclarerobustCommand{\LWR@HTML@unit}[2][]{%
```

```

3 \ifblank{#1}%
4 {\LWR@textcurrentfont{#2}}%
5 {%
6 #1%
7 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,,}%
8 \LWR@textcurrentfont{#2}%
9 }%
10 }%
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*{\LWR@HTML@unitfrac}[3][]{%
13 \ifblank{#1}%
14 {%
15 \nicefrac{#2}{#3}%
16 }%
17 {%
18 #1%
19 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,,}%
20 \nicefrac{#2}{#3}%
21 }%
22 }%
23 \LWR@formatted{unitfrac}

```

For MATHJAX:

```
25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{\#1 \mathinner{\#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{\#1 \mathinner{\{\}^{\#2}\!/\!\{\}^{\#3}}}}
28 \end{warpMathJax}
```

File 537 **lwarp-unitsdef.sty**

§ 646 Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg unitsdef unitsdef is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

```
2 \renewcommand{\unitvaluesep}{\,}
3
4 \renewcommand{\unittimes}{\@setunitsepfalse\HTMLunicode{22c5}}% \cdot
5
6 \renewunit{\arcmin}{%
7 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
8 \ensuremath{}^{\prime}}%
9 {\HTMLunicode{2032}}% prime
10 }
11
12 \renewunit{\arcsec}{%
```

```
13 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
14 {\ensuremath{{}^{\prime\prime}\prime}}%
15 {\HTML{2033}}% dbl prime
16 }
17
18 \renewrobustcmd{\SI}[2]{%
19 \begingroup%
20 \let\unit@@xspace\relax%
21 \unitSIdef\selectfont%
22 \LWR@textcurrentfont{\#1#2}% l warp
23 \endgroup%
24 }
```

---

**File 538 l warp-upgreek.sty****§ 647 Package upgreek**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg upgreek upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}
```

---

**File 539 l warp-upref.sty****§ 648 Package upref**

Pkg upref upref is ignored.

**for HTML output:** Discard all options for l warp-upref:

```
1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

---

**File 540 l warp-url.sty****§ 649 Package url**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg url url is patched for use by l warp.

**for HTML output:**

```
1 \LetLtxMacro{\LWR@url@orig@url}{\LWR@url}
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*{\LWR@HTML@Url@FormatString}{%
5 \expandafter\LWR@url@orig@url\expandafter{\Url@String}%
6 }
7 \LWR@formatted{\Url@FormatString}
```

---

**File 541 l warp-ushort.sty****§ 650 Package ushort**

(Emulates or patches code by MARTIN VÄTH.)

Pkg ushort ushort is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4 \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}%
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{\#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushort{\#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{\#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\kern{.1em}\underline{\#1}}}
10 \end{warpMathJax}
```

---

**File 542 l warp-uspace.sty****§ 651 Package uspace**

Pkg uspace uspace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{uspace}[2016/11/06]

---

**File 543 l warp-varioref.sty****§ 652 Package varioref**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg varioref varioref is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```
2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%
```

#### File 544 **l warp-verse.sty**

### § 653 Package **verse**

*(Emulates or patches code by PETER WILSON.)*

Pkg **verse** **verse** is supported and patched by **l warp**.

**for HTML output:** Pass all options for **l warp-verse**:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using **verse** or **memoir**, always place a **\\"** after each line.

**\attrib** The documentation for the **verse** and **memoir** packages suggest defining an **\attrib** command, which may already exist in current documents, but it will only work for print output. **l warp** provides **\attribution**, which works for both print and HTML output. To combine the two so that **\attrib** is used for print and **\attribution** is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len **\vleftskip** These lengths are used by **verse** and **memoir** to control the left margin, and they may already be set by the user for print output. New lengths **\HTMLvleftskip** and **\HTMLleftmargini** are provided to control the margins in HTML output. These new lengths may be set by the user before any **verse** environment, and persist until they are manually changed again. One reason to change **\HTMLleftmargini** is if there is a wide **\flagverse** in use, such as the word “Chorus”, in which case the value of **\HTMLleftmargini** should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

**⚠ spacing** Horizontal spacing relies on **pdftotext**’s ability to discern the layout (-layout option) of the text in the HTML-tagged PDF output. For some settings of **\HTMLleftmargini** or **\HTMLleftskip** the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused **pdftotext** to shift everything over.

Env **verse** The **verse** environment will be placed inside a **HTML <pre>**.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the **verse** environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original **list** environment inside a **<pre>** to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

Pkg **verse** The **verse** or **memoir** packages can place stanza numbers to the left with their **\flagverse** command. The following does not allow them to go into the left margin, which would cause **pdfcrop** to crop the entire page further to the left.  
 Cls **memoir**  
**\flagverse**  
 Len **\vleftskip** 7 \ifdef{\vleftskip}{%
 8 \setlength{\vleftskip}{\HTMLvleftskip}
 9 \setlength{\leftmargini}{\HTMLleftmargini}
 10 }{%
 11 \LWR@forcenewpage
 12 \LWR@atbeginverbatim{verse}%
 13 }

After the end of the **verse** environment, which places the **<pre>** tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place **poemtitle** inside an **HTML <span>** of class **poemtitle**:

```
18 \ifdef{\poemtitle}{%
19 \DeclareDocumentCommand{\@vstypepoemtitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }
24 }{%
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

File 545 **lwarf-personotes.sty**

§ 654 Package **personotes**

(Emulates or patches code by NORMAN GRAY.)

Pkg versonotes versonotes is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{versonotes}[2019/07/06]

```
2 \newcommand{\versonote}[1]{\marginpar{#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*{\versolayout}{}

```

In case the user changed the page number before loading versonotes:

```
6 \setcounter{page}{1}
```

---

#### File 546 l warp-vertbars.sty

### § 655 Package **vertbars**

(Emulates or patches code by PETER WILSON.)

Pkg vertbars vertbars is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```
2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8 \LWR@forcenewpage
9 \LWR@forceminwidth{\barwidth}
10 \begin{BlockClass}[
11 border-left: \LWR@printlength{\LWR@atleastonept} solid black ;
12 padding-left: \LWR@printlength{\barspace}%
13]{vertbar}
14 }{
15 \end{BlockClass}
16 }
```

---

#### File 547 l warp-vmargin.sty

### § 656 Package **vmargin**

Pkg vmargin vmargin is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```
2 \newcommand*{\LWRVM@customsize}[2]{}
3 \newcommand*{\setpapersize}[2][]{\ifstreq{\#2}{custom}{\LWRVM@customsize}{}}

```

---

```

4 \newcommand*{\setmargins}[8]{}
5 \newcommand*{\setmarginsrb}[8]{}
6 \newcommand*{\setmargnohf}[4]{}
7 \newcommand*{\setmargnohfrb}[4]{}
8 \newcommand*{\setmarg}[4]{}
9 \newcommand*{\setmargrb}[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape

```

---

File 548 **l warp-vowel.sty**

§ 657 Package **vowel**

*(Emulates or patches code by FUKUI REI.)*

Pkg vowel vowel is patched for use by l warp.

This package has been tested with *pdflatex* and the Type 1 TIPA fonts using the following package load sequence:

```

\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}

```

for HTML output: 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```

2 \renewenvironment{vowel}[1][]
3 {%
4 \begin{lateximage}[-vowel-\~\PackageDiagramAltText]%
5 \@vowel[#1]%
6 }
7 {%
8 \@@vowel%
9 \end{lateximage}%
10 }

```

---

File 549 **l warp-vpe.sty**

§ 658 Package **vpe**

Pkg vpe vpe is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

---

File 550 **l warp-vwcol.sty**

§ 659 Package **VWCOL**

(Emulates or patches code by WILL ROBERTSON.)

Pkg vwcol vwcol is patched for use with l warp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

for HTML output: 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule {\langle style tag\rangle}
 2 \newcommand*{\LWR@vwcol@addrule}[1]{%
 3 \appto{\LWR@vwcolstyle}{%
 4 #1: %
 5 \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
 6 }%
 7 }
```

```
\LWR@vwcol@addrule {\langle style tag\rangle}
 8 \newcommand*{\LWR@vwcol@addgap}[1]{%
 9 \appto{\LWR@vwcolstyle}{%
10 #1: %
11 \LWR@printlength{\vwcol@sep} ; %
12 }%
13 }
```

Env vwcol {\langle key/values\rangle}

Redefine the environment to add a HTML style. The style is built depending on the required options.

14 \renewenvironment\*{vwcol}[1][]{%

New paragraph, and process the options:

15 \LWR@stopars%

16 \vwcolsetup{\#1}%

Begin with no style:

17 \newcommand\*{\LWR@vwcolstyle}{}%

presep and postsep are created with HTML margins:

```

18 \if@vwcol@presep
19 \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22 \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi

```

sep becomes column-gap:

```

24 \ifdimgreater{\vwcol@sep}{1sp}{
25 \LWR@vwcol@addgap{column-gap}
26 \LWR@vwcol@addgap{-moz-column-gap}
27 \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}

```

rule become column-rule, while prerule and postrule become HTML borders:

```

29 \convertcolorspec[named]{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}%
31 \ifdimless{\vwcol@rule}{1pt}%
32 \setlength{\vwcol@rule}{1pt}
33 }%
34 \LWR@vwcol@addrule{column-rule}
35 \LWR@vwcol@addrule{-moz-column-rule}
36 \LWR@vwcol@addrule{-webkit-column-rule}
37 \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}

```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```

40 \ifdefequal{\vwcol@justify}{\RaggedRight}%
41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}%
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }%
46 }%
47 }{}

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}%
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{}

51 \ifdefequal{\vwcol@justify}{\Centering}%
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{}

54 \ifdefequal{\vwcol@justify}{\justifying}%
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{0pt}%
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }%
60 }%
61 }{}

```

Create the <div> with the assembled style:

---

```
62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }
```

When the environment ends:

```
64 {
65 \endBlockClass
66 \LWR@startpars
67 }
```

---

### File 551 **lwarf-wallpaper.sty**

## § 660 Package **wallpaper**

*(Emulates or patches code by MICHAEL H.F. WILKINSON.)*

Pkg **wallpaper** **wallpaper** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```
2 \newcommand*\CenterWallPaper}[2]{}
3 \newcommand*\ThisCenterWallPaper}[2]{}
4 \newcommand*\TileWallPaper}[3]{}
5 \newcommand*\ThisTileWallPaper}[3]{}
6 \newcommand*\TileSquareWallPaper}[2]{}
7 \newcommand*\ThisTileSquareWallPaper}[2]{}
8 \newcommand*\ULCornerWallPaper}[2]{}
9 \newcommand*\ThisULCornerWallPaper}[2]{}
10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper}{}}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}
```

---

### File 552 **lwarf-watermark.sty**

## § 661 Package **watermark**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg **watermark** **watermark** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```
2 \newcommand{\watermark}[1]{}
3 \newcommand{\leftwatermark}[1]{}
4 \newcommand{\rightwatermark}[1]{}
```

```
5 \newcommand{\thiswatermark}[1]{}
6 \newcommand{\thispageheading}[1]{}
```

File 553 **lwarp-widetable.sty**

§ 662 Package **widetable**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg widetable widetable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

```
2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}
```

File 554 **l warp-widows-and-orphans.sty**

## § 663 Package **widows-and-orphans**

Pkg widows-and-orphans widows-and-orphans is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widows-and-orphans} [2018/09/01]

```
2 \NewDocumentCommand\WaOsetup{m}{}
3 \NewDocumentCommand\WaOparameters{}{{}}
4 \NewDocumentCommand\WaOignorenext{}{{}}
```

## File 555 **lwarp-witharrows.sty**

## § 664 Package witharrows

(Emulates or patches code by F. PANTIGNY.)

Pkg witharrows witharrows is patched for use by lwarpg. Emulation is provided for MATHJAX.

for HTML output: I \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

```

2 \ifbool{mathjax}{
3 % For the hidden print version in the HTML:
4 \newcommand{\Arrow}{\Rightarrow}
5 \newcommand{\unicode}{\texttt{U+}}
6 \NewDocumentEnvironment { DispWithArrows } { ! d < > ! O { } +b }
7 {
8 \IfValueTF{#1}{%
9 \begin{displaymath}
10 #1 \left\{ \right.

```

```

11 \begin{align}
12 #3
13 \end{align}
14 \right .
15 \end{displaymath}
16 }{
17 \begin{displaymath}
18 \begin{align}
19 #3
20 \end{align}
21 \end{displaymath}
22 }
23 }
24 {}
25 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! O { } +b }
26 {
27 \IfValueTF{#1} {
28 \begin{displaymath}
29 #1 \left\{ \vphantom{#1} \right.
30 \begin{align*}
31 #3
32 \end{align*}
33 \right. \vphantom{#1}
34 \end{displaymath}
35 }{
36 \begin{displaymath}
37 \begin{align*}
38 #3
39 \end{align*}
40 \end{displaymath}
41 }
42 }
43 {}
44 }{
45 % If not MathJax, use SVG images.
46 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknonwmathsize}}
47 \BeforeBeginEnvironment{DispWithArrows}{%
48 \begin{BlockClass}{displaymathnumbered}%
49 \begin{ lateximage}%
50 }%
51 \AfterEndEnvironment{DispWithArrows}{\end{ lateximage}\end{BlockClass}}%
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53 \begin{BlockClass}{displaymath}%
54 \begin{ lateximage}%
55 }%
56 \AfterEndEnvironment{DispWithArrows*}{\end{ lateximage}\end{BlockClass}}%
57 }
58 %
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][]{\&{\Large\unicode{x2938}}\textit{#2}}}
63 \end{warpMathJax}

```

---

File 556 **l warp-wrapfig.sty**

§ 665 Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg wrapfig wrapfig is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

```
2 \newcommand*{\LWR@wrapposition}{}
3
4 \newcommand{\LWR@wrapfig@printHTMLwidth}[width:\LWR@printlength{\LWR@tempLengthOne}]
5
6 \AtBeginDocument{
7 \@ifpackageloaded{keyfloat}{
8 \renewcommand{\LWR@wrapfig@printHTMLwidth}{%
9 \ifboolexpr{
10 \test{\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}}\or
11 \bool{KFLT@inkeysubfloats}
12 }%
13 {\LWR@printPercentLength{\LWR@tempLengthOne}{\ linewidth}\%; }%
14 {\LWR@printLength{\LWR@tempLengthOne}}%
15 }%
16 }{}
17 }
18
19 \newcommand*{\LWR@subwrapfigure}[2]{%
20 \renewcommand*{\LWR@wrapposition}{}%
21 \ifthenelse{
22 \equal{\#1}{r}\OR\equal{\#1}{R}\OR%
23 \equal{\#1}{o}\OR\equal{\#1}{O}%
24 }%
25 {\renewcommand*{\LWR@wrapposition}{float:right}}%
26 {\renewcommand*{\LWR@wrapposition}{float:left}}%
27 \setlength{\LWR@tempLengthOne}{#2}%
28 \LWR@BlockClassWP{
29 width:\LWR@printLength{\LWR@tempLengthOne}; \LWR@wrapposition; %
30 margin:10pt%
31 }%
32 {
33 width:\LWR@wrapfig@printHTMLwidth; %
34 \LWR@wrapposition; %
35 }%
36 (note)%
37 {marginblock}%
38 \setlength{\ linewidth}{\LWR@tempLengthOne}%
39 }
40
```

```

41
42 \NewDocumentEnvironment{wrapfigure}{o m o m}
43 {%
44 \begin{LWR@setvirtualpage}%
45 \LWR@subwrapfigure{#2}{#4}%
46 \renewcommand*{\@capttype}{figure}%
47 }
48 {%
49 \endLWR@BlockClassWP%
50 \end{LWR@setvirtualpage}%
51 }
52
53
54 \NewDocumentEnvironment{wraptable}{o m o m}
55 {%
56 \begin{LWR@setvirtualpage}%
57 \LWR@subwrapfigure{#2}{#4}%
58 \renewcommand*{\@capttype}{table}%
59 }
60 {%
61 \endLWR@BlockClassWP%
62 \end{LWR@setvirtualpage}%
63 }
64
65
66 \NewDocumentEnvironment{wrapfloat}{m o m o m}
67 {%
68 \begin{LWR@setvirtualpage}%
69 \LWR@subwrapfigure{#3}{#5}%
70 \renewcommand*{\@capttype}{#1}%
71 }
72 {%
73 \endLWR@BlockClassWP%
74 \end{LWR@setvirtualpage}%
75 }
76
77 \newlength{\wrapoverhang}

```

File 557 **lwrap-xbmks.sty**§ 666 Package **xbmks**

Pkg xbmks xbmks is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

**File 558 l warp-xcolor.sty****§ 667 Package xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by l warp.

**§ 667.1 Limitations**

**\colorboxBlock and \fcolorboxBlock** \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a <span>. These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by l warp's core if xcolor is loaded.

**background: none** \fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored tables** \rowcolors is supported, except that the optional argument is ignored so far.

**colored text and boxes** \textcolor, \colorbox, and \fcolorbox are supported.

**\color and \pagecolor** \color and \pagecolor are ignored. Use css or \textcolor where possible.

**§ 667.2 xcolor definitions: location and timing**

The l warp core and its l warp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML lateximage. This requires a number of definitions and redefinitions depending on whether each of xcolor and lateximage is being used, and whether print or HTML is being generated. Some of these actions are one-time when xcolor is loaded, and others are temporary as lateximage is used.

**When xcolor is loaded in print mode:** No special actions are taken at the time that xcolor is loaded in print mode, but see \AtBeginDocument below.

**When l warp-xcolor is loaded in HTML mode:** xcolor's original definitions are saved for later restoration. \LWR@restoreorigformatting is appended to restore these definitions for use inside a lateximage. New HTML-mode definitions are created for \textcolor, \pagecolor, \nopagecolor, \colorbox, \colorboxBlock, \fcolorbox, \fcolorboxBlock, and fcolorminipage.

**\AtBeginDocument in print or HTML mode:** See Section 89. If xcolor has been loaded, the print-mode \fcolorbox is modified to accept a background color of none,

and additional definitions are created for lwarp's new macros print-mode macros \colorboxBlock, \fcolorboxBlock, and \fcolorminipage. The HTML versions of these macros will already have been created by lwarp-xcolor if it has been loaded.

For use inside an HTML \textrm{ lateximage}, \LWR@restoreorigformatting is appended to temporarily set these functions to their print-mode versions.

**In a \textrm{ lateximage} in HTML mode:** \LWR@restoreorigformatting temporarily restores the print-mode definitions of xcolor's functions. See \LWR@restoreorigformatting on page 563.

#### \color:

**Print:** Used as-is.

**HTML:** Ignored by *pdftotext*, and will not appear.

**HTML \textrm{ lateximage}: Colors will appear in a \textrm{ lateximage}.**

#### \textcolor:

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1278.

**HTML \textrm{ lateximage}: Remembers and reuses the print version.**

#### \pagecolor:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML \textrm{ lateximage}: Colors will be picked up in a \textrm{ lateximage}.**

#### \nopagecolor:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML \textrm{ lateximage}: Colors will be picked up in a \textrm{ lateximage}.**

#### \colorbox:

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1279.

**HTML \textrm{ lateximage}: Remembers and reuses the print version.**

#### \colorboxBlock:

**Print:** Becomes \colorbox.

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1279.

**HTML \textrm{ lateximage}: Remembers and reuses the print version \colorbox.**

#### \fcolorbox:

**Print:** Modified to allow a background of none.

\LWR@print@fcolorbox at section 89

**HTML:** Redefined by lwarp-xcolor, page 1280.

**HTML `\textrimage`:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 89

**HTML:** Newly defined by l warp-xcolor to use a <div>, page 1280.

**HTML `\textrimage`:** Remembers and reuses the print version \fcolorbox.

**fcolorminipage:**

**Print:** Newly defined in the l warp core.

LWR@print@fcolorminipage at section 89

**HTML:** Newly defined by l warp-xcolor, page 1281.

**HTML `\textrimage`:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by l warp-xcolor, page 1282.

**HTML `\textrimage`:** Remembers and reuses the print version.

### § 667.3 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

### § 667.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `\textrimage` environment:

2 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}  
 3 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}

**\LWR@restoreorigformatting** Inside a `\textrimage` the following gets restored to their print-mode actions:

4 \appto{\LWR@restoreorigformatting}{%  
 5 \LetLtxMacro{\pagecolor}{\LWR@print@pagecolor}%  
 6 \LetLtxMacro{\nopagecolor}{\LWR@print@nopagecolor}%  
 7 }

### § 667.5 \normalcolor

**\normalcolor**

8 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%  
 9  
 10 \LWR@formatted{normalcolor}

## § 667.6 HTML color style

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```

11 \renewcommand*\LWR@findcurrenttextcolor{%
12 \LWR@traceinfo{\LWR@findcurrenttextcolor}%
13 \protect\colorlet{\LWR@current@color}{.}%
14 \LWR@traceinfo{\LWR@findcurrenttextcolor B}%
15 \protect\convertcolorspec[named]{\LWR@current@color}{HTML}\LWR@tempcolor%
16 \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%
17 }
```

Prints a color style for the current color.

\LWR@currenttextcolorstyle

```

18 \newcommand*\LWR@currenttextcolorstyle{%
19 \LWR@findcurrenttextcolor%
20 \ifdefstring{\LWR@tempcolor}{000000}%
21 {}%
22 {color: \LWR@origpound\LWR@tempcolor ; }%
23 }
```

\LWR@textcurrentcolor {\text} Like \textcolor but uses the current \color instead.

```

24 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
25 \begingroup%
26 \LWR@hook@processingtags%
27 \LWR@findcurrenttextcolor%
28 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
29 \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
30 #1%
31 }%
32 \endgroup%
33 }
```

\LWR@colorstyle {\model} {\color}

For a color style, prints the color converted to HTML colors.

```

34 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
35 \begingroup%
36 \LWR@hook@processingtags%
```

Use the xcolor package to convert to an HTML color space:

```
37 \convertcolorspec[#1]{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```

38 \LWR@origpound\LWR@tempcolor%
39 \endgroup%
40 }
```

\LWR@backgroundcolor [{model}] {[color]} {\text}

Similar to \textcolor, but prints black text against a color background.

Converted into an **HTML** hex color span.

```

41 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
42 \begingroup%
43 \LWR@hook@processingtags%
44 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
45 #3%
46 }%
47 \endgroup%
48 }

```

### § 667.7 **HTML border**

\LWR@borderpadding {*colorstyle*} {*color*} Prints the **HTML** attributes for a black border and padding.  
 \LWR@forceminwidth must be used first in order to set the border width.

```

49 \newcommand*{\LWR@borderpadding}[2]{%
50 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
51 padding:\LWR@printlength{\fboxsep}%
52 }

```

### § 667.8 **High-level macros**

\color [*model*] {*color*}

⚠ The current \color is used by **HTML** rules and frames, but does not affect the current **HTML** text output, due to the lack of **HTML** states and scoping limitations. Use \textcolor if possible.

```

53 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
54 \IfValueTF{#1}{%
55 \LWR@print@color[#1]{#2}%
56 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
57 }{%
58 \LWR@print@color{#2}%
59 \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
60 }%
61 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
62 }%
63
64 \LWR@formatted{color}

```

\textcolor [*model*] {*color*} {*text*}

Converted into an **HTML** hex color span.

```

65 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
66 \begingroup%
67 \LWR@hook@processingtags%
68 \IfValueTF{#1}{%
69 \color[#1]{#2}%
70 }{%
71 \color{#2}%
72 }

```

```
72 }%
73 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
74 \endgroup%
75 }%
76
77 \LWR@formatted{textcolor}
```

\pagecolor [*model*] {*color*}

Ignored. Use css instead.

```
78 \renewcommand*\pagecolor[2][named]{}%
```

\nopagecolor Ignored.

```
79 \renewcommand*\nopagecolor{}%
```

\colorbox [*model*] {*color*} {*text*}

Converted into an HTML hex background color <span>.

```
80 \NewDocumentCommand{\LWR@HTML@colorbox}{0{named} m +m}{%
81 \begingroup%
82 \LWR@hook@processingtags%
83 \InlineClass[%%
84 background:\LWR@colorstyle{#1}{#2} ; %
85 padding:\LWR@printlength{\fboxsep}%
86]{colorbox}{#3}%
87 \endgroup%
88 }
```

\colorboxBlock [*model*] {*color*} {*text*}

Converted into an HTML hex background color <div>.

```
89 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{0{named} m +m}{%
90 \begingroup%
91 \LWR@hook@processingtags%
```

```
92 \LWR@stopars%
93 \begin{BlockClass}[%%
94 background:\LWR@colorstyle{#1}{#2} ; %
95 padding:\LWR@printlength{\fboxsep}%
96]{colorboxBlock}%
97 #3%
98 \end{BlockClass}%
99 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
100 \global\booltrue{LWR@minipagethispar}%
101 }
```

```
\fcolorbox [⟨framemodel⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
102 \NewDocumentCommand{\LWR@HTML\fcolorbox}{O{named} m O{#1} m +m}{%
103 \LWR@traceinfo{HTML fcolorbox #2 #4}%
104 \begingroup%
105 \LWR@hook@processingtags%
106 \LWR@forceminwidth{\fboxrule}%
107 \ifthenelse{\equal{#4}{none}}{%
108 {%
109 \InLineClass[%
110 \LWR@borderpadding{#1}{#2}%
111]{\fcolorbox}{#5}%
112 }%
113 {%
114 \InLineClass[%
115 \LWR@borderpadding{#1}{#2} ; %
116 background:\LWR@colorstyle{#3}{#4}%
117]{\fcolorbox}{#5}%
118 }%
119 \endgroup%
120 }
```

```
\fcolorboxBlock [⟨framemodel⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
121 \NewDocumentCommand{\LWR@HTML\fcolorboxBlock}{O{named} m O{#1} m +m}{%
122 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
123 \begingroup%
124 \LWR@hook@processingtags%
125 \LWR@forceminwidth{\fboxrule}%

126 \LWR@stopars%

127 \ifthenelse{\equal{#4}{none}}{%
128 {%
129 \begin{BlockClass}[%
```

```

132 #5
133 \end{BlockClass}%
134 }%
135 {%
136 yes background color
137 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
138 \begin{BlockClass}[%
139 background:\LWR@origpound\LWR@tempcolortwo\ ; %
140 \LWR@borderpadding{#1}{#2}%
141]{fcolorboxBlock}
142 #5
143 \end{BlockClass}%
144 }%
144 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

145 \global\booltrue{\LWR@minipagethispar}%
146 \LWR@traceinfo{HTML fcolorboxBlock done}%
147 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the **lwarp** core: section 89

```

\LWR@subfcolorminipage {⟨framemodel⟩} {⟨framecolor⟩} {⟨background tag⟩} {⟨height⟩}
148 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
149 \LWR@stoppars%
150 \begin{BlockClass}[%#
151 #3%
152 \LWR@borderpadding{#1}{#2} ; %
153 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
154 width:\LWR@printlength{\LWR@tempwidth}%
155]{fcolorminipage}%
156 }

Env fcolorminipage [⟨1:framemodel⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩]
 [⟨7:inner-align⟩] {⟨8:width⟩}

157 \NewDocumentEnvironment{\LWR@HTML@fcolorminipage}{O{named} m O{#1} m O{c} o o m}
158 {%
159 \LWR@hook@processingtags%
160 \setlength{\LWR@tempwidth}{#8}%
161 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
162 \LWR@forceminwidth{\fboxrule}%
163 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
164 \ifthenelse{\equal{#4}{none}}{%
165 \LWR@subfcolorminipage{#1}{#2}{}{#6}%
166 }%
167 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%

```

```

168 \LWR@subfcolorminipage{#1}{#2}%
169 {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
170 {#6}%
171 }%
172 }%
173 {%
174 \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

175 \global\booltrue{\LWR@minipagethispar}%
176 }%

```

\boxframe {*width*} {*height*} {*depth*}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```

177 \newcommand*{\LWR@HTML@boxframe}[3]{%
178 {%
179 \setlength{\LWR@tempwidth}{#1}%
180 \setlength{\LWR@tempheight}{#2}%
181 \addtolength{\LWR@tempheight}{#3}%
182 \LWR@forceminwidth\fboxrule\%
183 \LWR@findcurrenttextcolor\%
184 \InlineClass[%
185 display:inline-block ; %
186 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
187 width:\LWR@printlength{\LWR@tempwidth} ; %
188 height:\LWR@printlength{\LWR@tempheight}%
189]\{boxframe}\}%
190 }%
191 }%
192
193 \LWR@formatted{boxframe}

```

### § 667.9 Row colors

```

\rowc@l@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}
194 \newcommand*{\LWR@xcolor@tempcolor}{}%
195
196 \def\rowc@l@rs[#1]#2#3#4%
197 {
198 \rownum=1%
199 \rowcolorstrue%
200 \ifxempty{#3}%
201 {\def\@oddrowcolor{\norowcolor}}%
202 {%
203 \convertcolorspec[named]{#3}{HTML}\LWR@xcolor@tempcolor%
204 \edef\@oddrowcolor{%
205 \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolor@tempcolor}}%

```

```

206 }%
207 }%
208 \@ifxempty{\#4}%
209 {\def\@evenrowcolor{\norowcolor}}%
210 {%
211 \convertcolorspec{named}{\#4}{HTML}\LWR@xcolortempcolor%
212 \edef\@evenrowcolor{%
213 \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}}%
214 }%
215 }%
216 \if@rowcmd
217 \def\@rowcolors
218 {%
219 % #1%
220 \if@rowcolors
221 % \noalign{%
222 \relax\ifnum\rownum<#2\norowcolor\else
223 \ifodd\rownum\oddrowcolor\else\evenrowcolor\fi\fi%
224 % }%
225 \fi%
226 }%
227 \else
228 \def\@rowcolors
229 {%
230 \if@rowcolors
231 \ifnum\rownum<#2%
232 % \noalign{%
233 \norowcolor
234 % }%
235 \else
236 % #1%
237 % \noalign{%
238 \ifodd\rownum\oddrowcolor\else\evenrowcolor\fi\fi%
239 % }%
240 \fi
241 \fi%
242 }%
243 \fi
244 \ignorespaces%
245 }

```

\@norowcolor    Turns off color for this row.

```

246 \def\@norowcolor{%
247 \renewcommand{\LWR@xcolorrowHTMLcolor}{()}%
248 }

```

\@rowc@lors    Executed at the end of each row.

```

249 \def\@rowc@lors{%
250 % \noalign{%
251 \advance\rownum\@ne%
252 % }%
253 \@rowcolors%
254 }

```

---

**File 559 l warp-xexchangebar.sty****§ 668 Package xexchangebar**

Pkg xexchangebar xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{l warp-changebar}

---

**File 560 l warp-xellipsis.sty****§ 669 Package xellipsis**

(Emulates or patches code by DONALD P. GOODMAN III.)

Pkg xellipsis xellipsis is patched for use by l warp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```
2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4 \ifdim#1<\fontdimen2\font%
5 ,%
6 \else%
7 ~%
8 \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14 \LWR@xellipsespace{\xeliprebef}%
15 \xeliprechar%
16 \LWR@xellipsespace{\xelippreatf}%
17 \LWR@xellipsespace{\xelipbef}%
18 \xelipchar%
19 \xel@loopi = 1%
20 \loop\ifnum\xelipnum>\xel@loopi%
21 \advance\xel@loopi by1%
22 \LWR@xellipsespace{\xelipgap}%
23 \xelipchar%
24 \repeat%
25 \LWR@xellipsespace{\xelipaft}%
26 \LWR@xellipsespace{\xelippostbef}%
27 \xelippostchar%
28 \LWR@xellipsespace{\xelippostaf}}
```

```
29 }%
30 }%
```

---

File 561 **l warp-xetexko.sty**

§ 670 Package **xetexko**

(Emulates or patches code by DOHYUN KIM.)

Pkg xetexko xetexko is patched for use by l warp.

for HTML output:

```
1 \LWR@Loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/09/06]

4 \protected\def\typesetvertical{}
5 \protected\def\typesethorizontal{}
6
7 \def\verticaltypesetting{\BlockClass{verticalrl}}
8 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
9 \def\endverticaltypesetting{\endBlockClass}
10
11 \protected\def\vertical#1{\BlockClass{verticalrl}}
12 \protected\def\endvertical{\endBlockClass}
13 \protected\def\horizontal#1{\BlockClass{horizontaltb}}
14 \protected\def\endhorizontal{\endBlockClass}
15 \DeclareDocumentCommand{\vertlatin}{m}{#1}
```

---

File 562 **l warp-xevlna.sty**

§ 671 Package **xevlna**

(Emulates or patches code by ZDENĚK WAGNER.)

Pkg xevlna xevlna is patched for use by l warp.

Non-breakable spaces are inserted into HTML.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%
```

---

File 563 **l warp-xfakebold.sty**

§ 672 Package **xfakebold**

(Emulates or patches code by HERBERT VOSS.)

Pkg **xfakebold** **xfakebold** is patched for use by **l warp**, and additional underlying support is found in the **l warp** core.

⚠ **text mode** **xfakebold** is only used in SVG math and `\textrimage`s. Text mode is not set bold, but `\setBold` in text will be applied to any following SVG math.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{xfakebold}[2020/06/24]`

```

2 \newcommand*{\LWR@HTML@setBold}{\booltrue{\LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*{\LWR@HTML@unsetBold}{\boolfalse{\LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*{\LWR@applyxfakebold}{%
9 \ifbool{\LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }
```

For MATHJAX, **xfakebold** is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][]{\relax}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}}
14 \end{warpMathJax}
```

#### File 564 **l warp-xfrac.sty**

### § 673 Package **xfrac**

(Emulates or patches code by THE LATEX3 PROJECT.)

Pkg **xfrac** Supported by adding **xfrac** instances, and emulated for MATHJAX.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{xfrac}[2018-08-23]`

⚠ **font size** In the user's document preamble, **l warp** should be loaded after font-related setup. During HTML conversion, this font is used by **l warp** to generate its initial PDF output containing HTML tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into SVG images using this same user-selected font. **xfrac** below is set for the Latin Modern (lmr) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different em size.

`\sfrac` `[\langle instance\rangle] {\langle num\rangle} [\langle sep\rangle] {\langle denom\rangle}`

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. `\scalebox` is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `\textrimage`, no adjustments are necessary.

\xfracHTMLfontsize User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\{xfracHTMLfontsize}{.6em}
```

**instances** Instances of `xfrac` for various font choices:

Produce css for a small raised numerator and a small denominator.

Scaling is turned off so that `pdftotext` correctly reads the result.

```
3 \DeclareInstance{xfrac}{default}{text}{
4 numerator-format = {%
5 \begingroup%
6 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7 \InlineClass{numerator}{#1}\,,
8 \endgroup%
9 },
10 denominator-format = {%
11 \begingroup%
12 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13 \InlineClass{denominator}{#1}%
14 \endgroup%
15 },
```

For `pdftotext`, do not scale the text:

```
16 scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20 numerator-format = {%
21 \begingroup%
22 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23 \InlineClass{numerator}{#1}\,,
24 \endgroup%
25 },
26 denominator-format = {%
27 \begingroup%
28 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29 \InlineClass{denominator}{#1}%
30 \endgroup%
31 },
```

For `pdftotext`, do not scale the text:

```
32 scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36 numerator-format = {%
37 \begingroup%
38 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39 \InlineClass{numerator}{#1}\,,
40 \endgroup%
```

```

41 },
42 denominator-format = {%
43 \begingroup%
44 \RenewDocumentCommand{\scalebox}{m o m}{{\#3}%
45 \InlineClass{denominator}{\#1}%
46 \endgroup%
47 },

```

For *pdftotext*, do not scale the text:

```

48 scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52 numerator-format = {%
53 \begingroup%
54 \RenewDocumentCommand{\scalebox}{m o m}{{\#3}%
55 \InlineClass{numerator}{\#1},%
56 \endgroup%
57 },
58 denominator-format = {%
59 \begingroup%
60 \RenewDocumentCommand{\scalebox}{m o m}{{\#3}%
61 \InlineClass{denominator}{\#1}%
62 \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64 scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][]{\{}^{\LWRsfracnumerator\!#1\}_{\#2}}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{\#2}\LWRsfrac}}
69 \end{warpMathJax}

```

### File 565 lwarf-xltabular.sty

## § 674 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg xltabular xltabular is emulated by lwarf.

**for HTML output:** Relies on tabularx.

**⚠ table numbering** At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable[#3]}
8 {\endlongtable}
```

---

**File 566 l warp-xltxttra.sty****§ 675 Package xltxttra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

Pkg xltxttra xltxttra is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xltxttra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*{\vfrac}[2]{%
7 #1/\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum@\tempcnta>0
13 \XeTeXglyph@\tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1]{[#1]}
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

**File 567 l warp-xmpincl.sty****§ 676 Package xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

Pkg xmpincl xmpincl is ignored.

**for HTML output:**

Discard all options for `l warp-xmpincl`:

```
1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includexmp[1]{}

```

### File 568 **l warp-xpiano.sty**

§ 677 Package **xpiano**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg `xpiano` `xpiano` is patched for use by `l warp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xpiano}
2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11 [%
12 -xpiano-\PackageDiagramAltText{}: \detokenize\expandafter{\#2}%
13]
14 [\detokenize\expandafter{\#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}
```

---

### File 569 **l warp-xpinyin.sty**

§ 678 Package **xpinyin**

(Emulates or patches code by SOBEN LEE.)

Pkg `xpinyin` `xpinyin` is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]
```

The original's boxes are not used, instead the contents are used with <ruby>, <rt>, and <rp> tags per modern HTML. Color is detected. ratio is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```
2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:n {#1} {#2}
4 {
5 \color_group_begin: \color_ensure_current:
6 \l_xpinyin_pinyin_box_hook_tl
7 \renewcommand*{\l_xpinyin_ratio_tl}{1} % for pdftotext
8 __xpinyin_select_font:
9 \clist_if_exist:cTF { c_xpinyin_multiple_ #1 _clist }
10 { \l_xpinyin_multiple_tl \l_xpinyin_format_tl }
11 { \l_xpinyin_format_tl }
12 \ifdefempty{\l_xpinyin_format_tl}
13 {#3}
14 {\LWR@textcurrentcolor{#3}}
15 \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:n}

18 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn {#1} {#2}
19 {
20 __xpinyin_leavevmode:
21 \LWR@htmltagc{ruby}
22 __xpinyin_save_CJKsymbol:n {#2} \null% \null removes extra space
23 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp}\space)
24 \LWR@htmltagc{rt}
25 __xpinyin_make_pinyin_box:n {#1} {#2} { \use:c { c_xpinyin_ #1 _tl } }
26 \LWR@htmltagc{/rt}\space
27 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}\space
28 \LWR@htmltagc{/ruby}\space}\null
29 }
30 \LWR@formatted{__xpinyin_CJKsymbol:nn}

31 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn {#1} {#2}
32 {
33 __xpinyin_leavevmode:
34 \LWR@htmltagc{ruby}
35 __xpinyin_save_CJKsymbol:n {#1} \null% \null removes extra space
36 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp}\space)
37 \LWR@htmltagc{rt}
38 __xpinyin_make_pinyin_box:xnn
39 { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
40 \LWR@htmltagc{/rt}\space
41 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}\space
42 \LWR@htmltagc{/ruby}\space}\null
43 }
44 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
45
46 \ExplSyntaxOff
```

The l warp core uses the following to disable CJK xpinyin for filenames, sidetoc, and footnotes.

```
47 \renewcommand*\LWR@disablepinyin{\disablepinyin}
48
49 \FilenameNullify{\LWR@disablepinyin}
```

---

### File 570 l warp-xr.sty

§ 679 Package **xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

Pkg xr xr is patched for use by l warp. The \*\_html.aux file is used. \externaldocument is modified to also accept the optional arguments for xr-hyper, which currently uses xr for HTML output.

See section 5.17.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%
2 \LetLtxMacro{\LWR@orig}{\externaldocument}\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{O{} O{} m O{} }{%
5 \ifblank{#1}{%
6 \LWR@orig{\externaldocument[#3_html]}%
7 }{%
8 \LWR@orig{\externaldocument[#1]{#3_html}}%
9 }%
10 }
```

---

### File 571 l warp-xr-hyper.sty

§ 680 Package **xr-hyper**

(Emulates or patches code by DAVID CARLISLE.)

Pkg xr-hyper xr-hyper is replaced by xr, which is modified to accept the optional arguments for \externaldocument. So far, no hyperlinks are provided for citations.

See section 5.17.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{l warp-xr}
```

---

**File 572 l warp-xtab.sty**

§ 681      Package **xtab**

(Emulates or patches code by PETER WILSON.)

Pkg xtab xtab is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

⚠ Misplaced alignment tab character & For \tablefirsthead, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **latextimage** supertabular and xtab are not supported inside a latextimage.

```
2 \newcommand{\LWRXT@firsthead}{}%
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRXT@firsthead{\#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}%
9
10 \newcommand{\tablelasthead}[1]{}%
11
12 \newcommand{\notablelasthead}{}%
13
14 \newcommand{\tabletail}[1]{}%
15
16 \newcommand{\LWRXT@lasttail}{}%
17
18 \newcommand{\tablelasttail}[1]{%
19 \long\gdef\LWRXT@lasttail{\#1}%
20 }

21 \newcommand{\tablecaption}[2][]{}%
22 \long\gdef\LWRXT@caption{%
23 \ifblank{\#1}{%
24 {\caption{\#2}}%
25 {\caption[\#1]{\#2}}%
26 }%
27 }%
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption
```

---

```

31 \newcommand*{\LWRXT@caption}{}
32
33 \newcommand*{\shrinkheight}[1]{}
34
35 \newcommand*{\xentrystretch}[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 {}%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%
56 \gdef\LWRXT@caption{}%
57 \LWR@traceinfo{xtabular done}%
58 }%
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}%
62 {\endxtabular\endminipage}

```

---

### File 573 lwarf-xunicode.sty

#### § 682 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after lwarf.

Patch lwarf-xunicode, but also verify that it was loaded before lwarf:

**for HTML output:**

```

1 \LWR@Loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with textcomp.

```

4 \providecommand*{\LWR@HTML@textcircled}[1]{%
5 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%

```

```

6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%
10 \renewcommand*\{\textdegree}{\%}
11 \renewcommand*\{\textcelsius}{\%}
12 \renewcommand*\{\textohm}{\%}
13 \renewcommand*\{\textmu}{\%}
14 \renewcommand*\{\textlquill}{\%}
15 \renewcommand*\{\textrquill}{\%}
16 \renewcommand*\{\textcircledP}{\%}
17 \renewcommand*\{\texttwelveudash}{\%}
18 \renewcommand*\{\textthreequartersemdash}{\%}
19 \renewcommand*\{\textmho}{\%}
20 \renewcommand*\{\textnaira}{\%}
21 \renewcommand*\{\textpeso}{\%}
22 \renewcommand*\{\textrecipe}{\%}
23 \renewcommand*\{\textinterrobang}{\%}
24 \renewcommand*\{\textinterrobangdown}{\%}
25 \renewcommand*\{\textperthousand}{\%}
26 \renewcommand*\{\textpertenthousand}{\%}
27 \renewcommand*\{\textbaht}{\%}
28 \renewcommand*\{\textdiscount}{\%}
29 \renewcommand*\{\textservicemark}{\%}
30 \renewcommand*\{\textcircled}[1]{\#1}%
31 \renewcommand*\{\capitalcedilla}[1]{\#1}%
32 \renewcommand*\{\capitalogonek}[1]{\#1}%
33 \renewcommand*\{\capitalgrave}[1]{\#1}%
34 \renewcommand*\{\capitalacute}[1]{\#1}%
35 \renewcommand*\{\capitalcircumflex}[1]{\#1}%
36 \renewcommand*\{\capitaltilde}[1]{\#1}%
37 \renewcommand*\{\capitaldieresis}[1]{\#1}%
38 \renewcommand*\{\capitalhungarumlaut}[1]{\#1}%
39 \renewcommand*\{\capitalring}[1]{\#1}%
40 \renewcommand*\{\capitalcaron}[1]{\#1}%
41 \renewcommand*\{\capitalbreve}[1]{\#1}%
42 \renewcommand*\{\capitalmacron}[1]{\#1}%
43 \renewcommand*\{\capitaldotaccent}[1]{\#1}%
44 }% \FilenameNullify

```

### File 574 **lwarf-xurl.sty**

§ 683      Package **Xurl**

Pkg xurl xurl is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

---

**File 575 l warp-xy.sty**

§ 684      Package **XY**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

After xy modules have been loaded:

2 \AtBeginDocument{

The original definitions without a lateximage:

3 \LetLtxMacro{\LWR@orig@xy}{\xy}  
4 \LetLtxMacro{\LWR@orig@endxy}{\endxy}

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

5 \renewcommand\*{\xy}{%  
6     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%  
7         \addtocounter{\LWR@lateximagedepth}{1}{%  
8             \begin{lateximage}[-xy--\PackageDiagramAltText]{}}%  
9         \LWR@orig@xy%  
10 }  
11  
12 \renewcommand\*{\endxy}{%  
13     \LWR@orig@endxy%  
14     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{1}{%  
15         \addtocounter{\LWR@lateximagedepth}{-1}{%  
16             \end{lateximage}}%  
17 }

The \xybox must use the original definitions of \xy, \endxy:

18 \def\xybox#1{  
19     \LWR@orig@xy#1\LWR@orig@endxy%  
20     \Edge@c={\rectangleEdge}\computeLeftUpness@%  
21 }

If \xygraph is used, it is placed inside a lateximage:

22 \@ifundefined{xygraph}{}{  
23  
24 \LetLtxMacro{\LWR@origxygraph}{\xygraph}  
25  
26 \renewcommand{\xygraph}[1]{%

```
27 \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28 \LWR@origxygraph{\#1}
29 \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument
```

---

**File 576 l warp-zhlineskip.sty****§ 685 Package zhlineskip**

Pkg zhlineskip zhlineskip is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

```
2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}
```

---

**File 577 l warp-zwpagelayout.sty****§ 686 Package zwpagelayout**

(Emulates or patches code by ZDENĚK WAGNER.)

Pkg zwpagelayout zwpagelayout is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

```
2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6 \definecolor{cmykblack}{cmyk}{0,0,0,1}
7 \definecolor{grblack}{gray}{0}
8 % \ifzwpl@redefineblack
9 % \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 % \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rbred}{rgb}{1,0,0}
15 \definecolor{rbgreen}{rgb}{0,1,0}
16 \definecolor{rbblue}{rgb}{0,0,1}
17 % \ifzwpl@redefinetocmyk
18 % \definecolor{red}{cmyk}{0,1,1,0}
```

```
19 % \definecolor{green}{cmyk}{1,0,1,0}
20 % \definecolor{blue}{cmyk}{1,1,0,0}
21 % \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{{\SetOverprint#1}}
29 \DeclareRobustCommand\textknockout[1]{{\SetKnockout#1}}
30
31 \def\SetPDFminorversion#1{}
32 @onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr(){}
35
36 \DeclareRobustCommand\vb[1][]{}
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#1{\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#1{\gdef\Z@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{\hbox{#1}}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}
```

---

File 578 **lwarp-patch-komascript.sty**

§ 687 Package **patch-komascript**

Pkg **lwarp-patch-komascript** Patches for komascript classes.

lwarp loads this package when **scrbook**, **scrartcl**, or **scrreprt** classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

 **Not fully tested!** Please send bug reports!

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:** 1 \ProvidesPackage{lwarf-patch-komascript}

typearea is emulated.

2 \RequirePackage{lwarf-typearea}

tocbasic is emulated.

3 \RequirePackage{lwarf-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarf-scrextend}

Indexing macros, simplified for lwarf:

```
5 \AtBeginDocument{
6
7 \renewcommand*\idx@heading}{%
8 \idx@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12 \idx@heading%
13 \index@preamble\par\nobreak
14 \LetLtxMacro\item\LWR@indexitem%
15 \LetLtxMacro\subitem\LWR@indexsubitem%
16 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22 }% AtBeginDocument
```

The \minisec is placed inside a <div> of class minisec.

```
23 \renewcommand*\minisec[1]{
24 \begin{BlockClass}{minisec}
25 #1
26 \end{BlockClass}
27 }
```

The part and chapter preambles are placed as plain text just after each heading.

```
28 \@ifundefined{setpartpreamble}{}{%
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30 \renewcommand{\part@preamble}{#3}%
31 }%
32 }%
33 %
34 \@ifundefined{setchapterpreamble}{}{%
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36 \renewcommand{\chapter@preamble}{#3}%
37 }%
38 }
```

Do not use `\chaptername`:

```
39 \renewcommand*{\LWR@printchaptername}{}%
```

Simple captions are used in all cases.

```
40 \AtBeginDocument{%
41 \AtBeginDocument{%
42 \LetLtxMacro{\captionbelow}{\caption}
43 \LetLtxMacro{\captionabove}{\caption}
44 %
45 \LetLtxMacro{\captionofbelow}{\captionof}
46 \LetLtxMacro{\captionofabove}{\captionof}
47 }%
48 }%
49 %
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}%
52 %
53 \IfValueTF{#1}{%
54 {\caption[#1]{#2}}%
55 {\caption{#2}}%
56 }%
57 %
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}%
60 %
61 \IfValueTF{#2}{%
62 {\captionof{#1}[#2]{#3}}%
63 {\captionof{#1}{#3}}%
64 }%
65 %
66 \RenewDocumentCommand{\setcapindent}{s m}{}%
67 \renewcommand*{\setcaphanging}{}%
68 \renewcommand*{\setcapwidth}[2][]{%
69 \renewcommand*{\setcapdynwidth}[2][]{%
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}%
```

---

File 579 **l warp-patch-memoir.sty**

§ 688      Package **patch-memoir**

(Emulates or patches code by PETER WILSON.)

Pkg l warp-patch-memoir Patches for memoir class.

⚠ Not fully tested! Please send bug reports!

l warp loads this package when the memoir class is detected.

⚠ captions l warp uses caption, which causes a warning from memoir. This is normal. Adjust captions via caption, instead of memoir.

⚠ options clash While emulating memoir, l warp pre-loads a number of packages (section 688.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading l warp:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{l warp}
...
\usepackage{package_name}
```

⚠ version numbers memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since l warp is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

\label(bookmark){tag} \label accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ comment The comment environment is from the comment package, and thus requires that the \begin and \end each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

\newcomment Comments defined with \newcomment use memoir's definitions, and behave as expected, where the \begin and \end do have to each be on its own line.

⚠ verbatim footnotes \verbfootnote is not supported.

⚠ \newfootnoteseries \newfootnoteseries, etc. are not supported.

⚠ page notes l warp loads pagenote to perform memoir's pagenote functions, but there are minor differences in \pagenotesubhead and related macros.

**page notes with cleveref** To add support for pagenotes with cleveref, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

**page note \nameref** Note that for print mode, \nameref print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

- ⚠️ **poems** Poem numbering is not supported.
- ⚠️ **verbatim** The verbatim environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.
- ⚠️ **glossaries** The memoir glossary system is not yet supported by *l warpmk*. The glossaries package may be used instead, but does require the glossary entries be changed from the memoir syntax to the glossaries syntax.

**for HTML output:**

```
1 \ProvidesPackage{l warp-patch-memoir}
```

## § 688.1 Packages

These are pre-loaded to provide emulation for many of memoir's functions. memoir pretends that abstract, etc. are already loaded, via its "emulated" package mechanism, but l warp is directly loading the "l warp-" version of each, which happens to avoid memoir's emulation system.

```

2 \RequirePackage{l warp-abstract}% req'd
3 % \RequirePackage{l warp-array}% no longer req'd
4 \RequirePackage{l warp-booktabs}% req'd
5 % \RequirePackage{l warp-ccaption}% emulated below
6 \RequirePackage{l warp-changepage}% req'd
7 \RequirePackage{l warp-crop}
8 % \RequirePackage{l warp-dcolumn}% no longer req'd
9 \RequirePackage{l warp-enumerate}% req'd
10 \RequirePackage{l warp-epigraph}% req'd
11 \RequirePackage{l warp-fancyvrb}% req'd
12 \RequirePackage{l warp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{l warp-framed}% req'd
18
19 \RequirePackage{l warp-hanging}% req'd
20 \RequirePackage{l warp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{l warp-moreverb}
23 \RequirePackage{l warp-mparhack}
24 \RequirePackage{l warp-needspace}% req'd
25 \RequirePackage{l warp-nextpage}% req'd
26 \RequirePackage{l warp-pagenote}% req'd
27 \RequirePackage{l warp-parskip}
28 \RequirePackage{l warp-setspace}% req'd
29 \RequirePackage{l warp-showidx}
```

```

30 \makeindex

31 % \RequirePackage{l warp-tabularx}% no longer req'd
32 \RequirePackage{l warp-titling}% req'd
33 % \RequirePackage{l warp-tocbibind}% not emulated by memoir
34 \RequirePackage{l warp-tocloft}% req'd
35 \RequirePackage{l warp-verse}% req'd

```

## § 688.2 Label handling

Insert the l warp label mechanism into the memoir package mechanism:

- \@mem@old@label is the L<sup>A</sup>T<sub>E</sub>X definition of \label.
- \LWR@orig@label becomes the memoir definition.
- l warp's \LWR@new@label uses \LWR@orig@label.
- Want memoir's \label to use l warp's \label, which then would use L<sup>A</sup>T<sub>E</sub>X's \label.
- So:
  - \@mem@old@label is set to \LWR@new@label.
  - \LWR@orig@label is set to \@mem@old@label.
- cleveref then encapsulates all the above with \cref@old@label.
- For a subcaption, cleveref modifies memoir's \sf@memsub@label, but that change is undone by l warp.

```

36 \LetLtxMacro{\LWR@orig@label}{\@mem@old@label}
37 \LetLtxMacro{\@mem@old@label}{\LWR@new@label}

```

Patches for subfloats to support additional l warp labels. This is the non-hyperref version from memoir.

```

38 \AtBeginDocument{
39 \renewcommand*{\sf@memsub@label}[1]{%
40 \bsphack
41 \sf@memsub@label@hook{#1}%
42 \memoldlabel{#1}%
43 \cref@label{#1}%
44 \LWR@label@createtag{sub@#1}%
45 \protected@write\auxout{}{%
46 \string\newlabel{sub@#1}%
47 {{\nameuse{@thesub@\capttype}}%
48 {\thepage}}}}%
49 \LWR@write@lwarplabel{sub@#1}%
50 \esphack
51 }
52 }

```

### § 688.3 Page layout

*memoir* already set the page size to a default, so it must be forced large for `lwarf`'s use, to avoid tag overflows off the page.

```
53 \setstocksize{190in}{20in}
54 \setlrmarginsandblock{2in}{2in}{*}
55 \setulmarginsandblock{1in}{1in}{*}

56 \renewcommand*\stockavi(){}
57 \renewcommand*\stockav(){}
58 \renewcommand*\stockaiv(){}
59 \renewcommand*\stockaiii(){}
60 \renewcommand*\stockavii(){}
61 \renewcommand*\stockbvi(){}
62 \renewcommand*\stockbv(){}
63 \renewcommand*\stockbiv(){}
64 \renewcommand*\stockbiii(){}
65 \renewcommand*\stockbvii(){}

66 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
67 \renewcommand*\stockmlargecrownvo(){}
68 \renewcommand*\stockmdemyvo){}
69 \renewcommand*\stockmsmallroyalvo){}
70 \renewcommand*\pageavi(){}
71 \renewcommand*\pageavii(){}
72 \renewcommand*\pageav(){}
73 \renewcommand*\pageaiv){}
74 \renewcommand*\pageaiii){}
75 \renewcommand*\pagebvi){}
76 \renewcommand*\pagebvii){}
77 \renewcommand*\pagebv){}
78 \renewcommand*\pagebiv){}
79 \renewcommand*\pagebiii(){}

80 % \renewcommand*\pagemetriccrownvo{}% in docs but not in the package
81 \renewcommand*\pagemlargecrownvo){}
82 \renewcommand*\pagemdemyvo){}
83 \renewcommand*\pagemsallroyalvo){}
84

85 \renewcommand*\stockdbill(){}
86 \renewcommand*\stockstatement(){}
87 \renewcommand*\stockexecutive){}
88 \renewcommand*\stockletter){}
89 \renewcommand*\stockold){}
90 \renewcommand*\stocklegal){}
91 \renewcommand*\stockledger){}
92 \renewcommand*\stockbroadsheet){}
93 \renewcommand*\pagedbill){}
94 \renewcommand*\pagestatement){}
95 \renewcommand*\pageexecutive){}
96 \renewcommand*\pageletter){}
97 \renewcommand*\pageold){}
98 \renewcommand*\pagelegal){}
99 \renewcommand*\pageledger){}
100 \renewcommand*\pagebroadsheet){}
```

```
102 \renewcommand*\{\stockpottvo}{}
103 \renewcommand*\{\stockfoolscapvo}{}
104 \renewcommand*\{\stockcrownvo}{}
105 \renewcommand*\{\stockpostvo}{}
106 \renewcommand*\{\stocklargecrownvo}{}
107 \renewcommand*\{\stocklargepostvo}{}
108 \renewcommand*\{\stocksalldemyo}{}
109 \renewcommand*\{\stockdemyvo}{}
110 \renewcommand*\{\stockmediumvo}{}
111 \renewcommand*\{\stocksallroyalvo}{}
112 \renewcommand*\{\stockroyalvo}{}
113 \renewcommand*\{\stocksuperroyalvo}{}
114 \renewcommand*\{\stockimperialvo}{}
115 \renewcommand*\{\pagepottvo}{}
116 \renewcommand*\{\pagefoolscapvo}{}
117 \renewcommand*\{\pagecrownvo}{}
118 \renewcommand*\{\pagepostvo}{}
119 \renewcommand*\{\pagelargecrownvo}{}
120 \renewcommand*\{\pagelargepostvo}{}
121 \renewcommand*\{\pagesalldemyo}{}
122 \renewcommand*\{\pagedemyvo}{}
123 \renewcommand*\{\pagemediumvo}{}
124 \renewcommand*\{\pagesallroyalvo}{}
125 \renewcommand*\{\pageroyalvo}{}
126 \renewcommand*\{\pagesuperroyalvo}{}
127 \renewcommand*\{\pageimperialvo}{}
128
129 \renewcommand*\{\memfontfamily}{}
130 \renewcommand*\{\memfontenc}{}
131 \renewcommand*\{\memfontpack}{}
132
133 \renewcommand*\{\anyptfilebase}{}
134 \renewcommand*\{\anyptsize}{10}
135
136 \renewcommand*\{\setstocksize}[2]{}
137 \renewcommand*\{\settrimmedsize}[3]{}
138 \renewcommand*\{\settrims}[2]{}
139
140 % \newlength{\lxvchars}
141 % \setlength{\lxvchars}{305pt}
142 % \newlength{\xlvchars}
143 % \setlength{\xlvchars}{190pt}
144 \renewcommand*\{\setxlvchars}[1]{}
145 \renewcommand*\{\setlxvchars}[1]{}
146
147 \renewcommand*\{\settypeblocksize}[3]{}
148 \renewcommand*\{\setlrmargins}[3]{}
149 \renewcommand*\{\setlrmarginsandblock}[3]{}
150 \renewcommand*\{\setbinding}[1]{}
151 \renewcommand*\{\setulmargins}[3]{}
152 \renewcommand*\{\setulmarginsandblock}[3]{}
153 \renewcommand*\{\setcolsepandrue}[2]{}
154
155 \renewcommand*\{\setheadfoot}[2]{}
156 \renewcommand*\{\setheaderspaces}[3]{}
157
```

```

157 \renewcommand*{\setmarginnotes}[3]{}
158 \renewcommand*{\setfootins}[2]{}
159 \renewcommand*{\checkandfixthelayout}[1][]{}
160 \renewcommand*{\checkthelayout}[1]{}
161 \renewcommand*{\fixthelayout}{}{}
162 %
163 % \newlength{\stockheight}
164 % \newlength{\trimtop}
165 % \newlength{\trimedge}
166 % \newlength{\stockwidth}
167 % \newlength{\spinemargin}
168 % \newlength{\foremargin}
169 % \newlength{\uppermargin}
170 % \newlength{\headmargin}
171 %
172 \renewcommand*{\typeoutlayout}{}{}
173 \renewcommand*{\typeoutstandardlayout}{}{}
174 \renewcommand*{\settypeoutlayoutunit}[1]{}{}
175 \renewcommand*{\fixpdflayout}{}{}
176 \renewcommand*{\fixdvipslayout}{}{}
177 %
178 \renewcommand*{\medievalpage}[1][]{}
179 \renewcommand*{\isopage}[1][]{}
180 \renewcommand*{\semiisopage}[1][]{}
181 %
182 \renewcommand{\setpagebl}[3]{}{}
183 \renewcommand{\setpageml}[3]{}{}
184 \renewcommand{\setpagetl}[3]{}{}
185 \renewcommand{\setpagetm}[3]{}{}
186 \renewcommand{\setpagetr}[3]{}{}
187 \renewcommand{\setpagemr}[3]{}{}
188 \renewcommand{\setpagebr}[3]{}{}
189 \renewcommand{\setpagebm}[3]{}{}
190 \renewcommand{\setpagecc}[3]{}{}
```

#### § 688.4 Text and fonts

```

191 \let\miniscule\tiny
192 \let\HUGE\Huge
193 %
194 \renewcommand*{\abnormalparskip}[1]{}{}
195 \renewcommand*{\nonzeroparskip}{}{}
196 \renewcommand*{\traditionalparskip}{}{}
197 %
198 \let\onelineskip\baselineskip
199 %
200 \let\OnehalfSpacing\onehalfspacing
201 \let\DoubleSpacing\doublespacing
202 \renewcommand*{\setPagenoteSpacing}[1]{}{}
203 \renewcommand*{\setFloatSpacing}[1]{}{}
```

204 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}

205 \let\setSingleSpace\SetSinglespace

206 \let\SingleSpace\singlespace

---

```

207 \let\endSingleSpace\endsingleSpace
208 \let\Spacing\spacing
209 \let\endSpacing\endspacing
210 \let\OnehalfSpace\onehalfspace
211 \let\endOnehalfSpace\endonehalfspace
212 \csletcs{OnehalfSpace*}{onehalfspace}
213 \csletcs{endOnehalfSpace*}{endonehalfspace}
214 \let[DoubleSpace\doublespace
215 \let\endDoubleSpace\enddoublespace
216 \csletcs{DoubleSpace*}{doublespace}
217 \csletcs{endDoubleSpace*}{enddoublespace}
218 \renewcommand*\setDisplayskipStretch[]{}
219 \renewcommand*\memdskipstretch(){}
220 \renewcommand*\noDisplayskipStretch(){}
221 \renewcommand*\memdskips(){}
222
223 \renewcommand*\midsloppy(){}
224 \renewenvironment*midsloppypar{}{}
225
226 \renewcommand*\sloppybottom(){}

```

## § 688.5 Titles

```

227 \csletcs{titlingpage*}{titlingpage}
228 \csletcs{endtitlingpage*}{endtitlingpage}
229 \let\titlingpageend\relax
230 \newcommand{\titlingpageend}[2]{}
231 \let\andnext\and
232 \renewcommand*\thanksmarkstyle[]{}
233
234 \renewcommand{\thanksfootmark}{%
235 \thanksscript{\tmark}%
236 }
237
238 % \newlength{\thanksmarksep} already provided by memoir
239 \renewcommand\titlingpageend[2]{}

```

## § 688.6 Abstracts

```

240 % \newlength{\absindent}
241 % \newlength{\absparsep}
242 \renewcommand*\abstractcol(){}
243 \renewcommand*\abstractintoc(){}
244 \renewcommand*\abstractnum(){}
245 \renewcommand*\abstractrunin(){}

```

## § 688.7 Document divisions

```

\book * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
246 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
247 \LWR@section{#1}{#3}{#6}{book}%
248 }

```

```
249 \def\@apppage{%
250 \part*\{\appendixpagename\}
251 }
252 \renewcommand\mempreaddapppagetotochook{}
253 \renewcommand\mempostaddapppagetotochook{}
254
255 \def\@sapppage{%
256 \part*\{\appendixpagename\}
257 }

258 \DeclareDocumentCommand{\mainmatter}{s}{%
259 \booltrue{LWR@mainmatter}%
260 }
261
262 \DeclareDocumentCommand{\frontmatter}{s}{%
263 \boolfalse{LWR@mainmatter}%
264 }

265 \renewcommand*\raggedbottomsection{}
266 \renewcommand*\normalbottomsection{}
267 \renewcommand*\bottomsectionskip{}
268 \renewcommand*\bottomsectionpenalty{}
269 \csletcs{appendixpage}{appendixpage}
270 \renewcommand*\namedsubappendices{}
271 \renewcommand*\unnamedsubappendices{}
272 \renewcommand*\beforebookskip{}
273 \renewcommand*\afterbookskip{}
274 \renewcommand*\beforepartskeep{}
275 \renewcommand*\afterpartskeep{}
276 \renewcommand*\midbookskip{}
277 \renewcommand*\midpartskeep{}
278 \renewcommand*\printbookname{}
279 \renewcommand*\booknamefont{}
280 \renewcommand*\booknamenum{}
281 \renewcommand*\printbooknum{}
282 \renewcommand*\booknumfont{}
283 \renewcommand*\printpartname{}
284 \renewcommand*\partnamefont{}
285 \renewcommand*\partnamenum{}
286 \renewcommand*\printpartnum{}
287 \renewcommand*\partnumfont{}
288 \renewcommand*\printbooktitle}[1]{}
289 \renewcommand*\booktitlefont{}
290 \renewcommand*\printparttitle}[1]{}
291 \renewcommand*\parttitlefont{}
292 \renewcommand*\bookpageend{}
293 \renewcommand*\bookblankpage{}
294 \renewcommand*\nobookblankpage{}
295 \renewcommand*\partpageend{}
296 \renewcommand*\partblankpage{}
297 \renewcommand*\nopartblankpage{}
298 \RenewDocumentCommand{\newleadpage}{s o m m}{% todo
299 \RenewDocumentCommand{\renewleadpage}{s o m m}{% todo
300 \renewcommand*\leadpagetoclevel}{chapter}
```

```
301
302 \renewcommand*{\openright}{}
303 \renewcommand*{\openleft}{}
304 \renewcommand*{\openany}{}
305 \renewcommand*{\clearforchapter}{}
306 \renewcommand*{\memendofchapterhook}{}
307 \renewcommand*{\chapterheadstart}{}
308 % \newlength{\beforechapskip}
309 \renewcommand*{\afterchaptnum}{}
310 % \newlength{\midchapskip}
311 \renewcommand*{\afterchapttitle}{}
312 % \newlength{\afterchapskip}
313 \renewcommand*{\printchaptname}{}
314 \renewcommand*{\chapnamefont}{}
315 \renewcommand*{\chaptnamenum}{}
316 \renewcommand*{\printchaptnum}{}
317 \renewcommand*{\chapnumfont}{}
318 \renewcommand{\printchaptnum}{[1]{}}
319 \renewcommand*{\chapttitlefont}{}
320 \renewcommand*{\printchaptnum}{}
321 \renewcommand*{\indentafterchapter}{}
322 \renewcommand*{\noindentafterchapter}{}
323 \renewcommand*{\insertchapterspace}{}
324
325 \renewcommand*{\chapterstyle}{[1]{}}
326 \renewcommand{\makechapterstyle}{[2]{}}
327 \renewcommand*{\chapindent}{}
328 \let\chapterprecis\cftchapterprecis
329 \let\chapterprecishere\cftchapterprecishere
330 \let\chapterprecistoc\cftchapterprecistoc
331 \renewcommand*{\precisfont}{}
332 \renewcommand*{\prechapterprecis}{}
333 \renewcommand*{\postchapterprecis}{}
334 \renewcommand{\precistotext}{[1]{}}
335 \renewcommand*{\precistocfont}{}
336 \renewcommand*{\precistocformat}{}
337 % \newlength{\prechapterprecisshift}
338
339 \renewcommand*{\setbeforesecskip}{[1]{}}
340 \renewcommand*{\setaftersecskip}{[1]{}}
341 \renewcommand*{\setsecindent}{[1]{}}
342 \renewcommand*{\setsecheadstyle}{[1]{}}
343 \renewcommand*{\setbeforesubsecskip}{[1]{}}
344 \renewcommand*{\setaftersubsecskip}{[1]{}}
345 \renewcommand*{\setsubsecindent}{[1]{}}
346 \renewcommand*{\setsubsecheadstyle}{[1]{}}
347 \renewcommand*{\setbeforesubsubsecskip}{[1]{}}
348 \renewcommand*{\setaftersubsubsecskip}{[1]{}}
349 \renewcommand*{\setsubsubsecindent}{[1]{}}
350 \renewcommand*{\setsubsubsecheadstyle}{[1]{}}
351 \renewcommand*{\setbeforeparaskip}{[1]{}}
352 \renewcommand*{\setafterparaskip}{[1]{}}
353 \renewcommand*{\setparaindent}{[1]{}}
354 \renewcommand*{\setparaheadstyle}{[1]{}}
355 \renewcommand*{\setbeforeparaskip}{[1]{}}
```

```

356 \renewcommand*\{\setaftersubparaskip}[1]{}
357 \renewcommand*\{\setsuparaindent}[1]{}
358 \renewcommand*\{\setsuparaheadstyle}[1]{}
359 \renewcommand{\hangfrom}[1]{#1}
360 \renewcommand{\sethangfrom}[1]{}
361 \renewcommand{\setsecnumformat}[1]{}
362
363 \renewcommand{\hangsecnum}{}
364 \renewcommand{\defaultsecnum}{}
365
366 \renewcommand{\sechook}{}
367 \renewcommand{\setsechook}[1]{}
368 \renewcommand{\subsechook}{}
369 \renewcommand{\setsupsechook}[1]{}
370 \renewcommand{\subsubsechook}{}
371 \renewcommand{\setsupsubsechook}[1]{}
372 \renewcommand{\parahook}{}
373 \renewcommand{\setparahook}[1]{}
374 \renewcommand{\subparahook}{}
375 \renewcommand{\setsubparahook}[1]{}
376
377 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
378
379 \RenewDocumentCommand{\fancybreak}{s +m}{%
380 \begin{center}#2\end{center}%
381 }
382
383 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
384 \begin{center}#4\end{center}%
385 }
386
387 \RenewDocumentCommand{\pfbreak}{s}{%
388 \begin{center}%
389 \pfbreakdisplay
390 \end{center}%
391 }
392
393 % \newlength{\pfbreakskip}
394 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
395
396 \renewcommand{\makeheadstyles}[2]{}
397 \renewcommand{\headstyles}[1]{}

```

## § 688.8 Pagination and headers

```

398 \renewcommand{\savepagenumber}{}
399 \renewcommand{\restorepagenumber}{}
400 \renewcommand{\uppercaseheads}{}
401 \renewcommand{\nouppercaseheads}{}
402
403 \renewcommand{\bookpagemark}[1]{}
404 \renewcommand{\partmark}[1]{}
405 \renewcommand{\bibmark}{}
406 \renewcommand{\indexmark}{}
407 \renewcommand{\glossarymark}{}
408

```

```

409 \LWR@origpagestyle{empty}
410 \renewcommand*{\ps@empty}{}
411 \renewcommand*{\makepagestyle}[1]{}
412 \renewcommand*{\emptypshook}{}%
413 % \renewcommand*{\empty@oddhead}{}%
414 % \renewcommand*{\empty@oddfoot}{}%
415 % \renewcommand*{\empty@evenhead}{}%
416 % \renewcommand*{\empty@evenfoot}{}%
417 \renewcommand*{@oddhead}{}%
418 \renewcommand*{@oddfoot}{}%
419 \renewcommand*{@evenhead}{}%
420 \renewcommand*{@evenfoot}{}%
421 \renewcommand*{\aliaspagestyle}[2]{}
422 \renewcommand*{\copypagestyle}[2]{}
423
424 \renewcommand*{\makeevenhead}[4]{}
425 \renewcommand*{\makeoddhead}[4]{}
426 \renewcommand*{\makeevenfoot}[4]{}
427 \renewcommand*{\makeoddfoot}[4]{}
428 \renewcommand*{\makerunningwidth}[3]{}
429 % \newlength{\headwidth}
430 \renewcommand*{\makeheadrule}[3]{}
431 \renewcommand*{\makefootrule}[3]{}
432 \renewcommand*{\makeheadfootruleprefix}[3]{}
433 % \newlength{\normalrulethickness}
434 % \setlength{\normalrulethickness}{.4pt}
435 % \newlength{\footruleheight}
436 % \newlength{\footruleskip}
437 \renewcommand*{\makeheadposition}[5]{}
438 \renewcommand{\makepsmarks}[2]{}
439 \renewcommand*{\makeheadfootstrut}[3]{}

440 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{}}
441 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{}}

442 \renewcommand{\memUhead}[1]{}
443 \renewcommand*{\clearplainmark}[1]{}
444 \renewcommand*{\clearmark}[1]{}
445 \renewcommand{\addtopsmarks}[3]{}
446 \renewcommand{\ifonlyfloats}[2]{#2}
447 \renewcommand*{\mergepagefloatstyle}[3]{}
448
449 \renewcommand*{\framepichead}{}%
450 \renewcommand*{\framepictextfoot}{}%
451 \renewcommand*{\framepichook}{}%
452 \renewcommand*{\showheadfootlocoff}{}%
453 \renewcommand*{\showtextblocklocoff}{}%

```

### § 688.9 Paragraphs and lists

```

454 \renewcommand{\hangfrom}[1]{#1}
455 \let\centerfloat\centering
456 \renewcommand*{\raggedyright}[1][]{}
457 % \newlength{\ragrparindent}
458 \renewcommand{\sourceatright}[2][]{\attribution{#2}}

```

```
459 \let\memorigdbs\LWR@endofline

460 \renewcommand*\memorigpar{\par}

461 \let\atcentercr\LWR@endofline
462
463 \renewcommand*\linenottooshort[1][]{
464 \renewcommand*\russianpar{}
465 \renewcommand*\lastlinerulefill{}
466 \renewcommand*\lastlineparrule{}
467 \renewcommand*\justlastraggedleft{}
468 \renewcommand*\raggedrightthenleft{}
469 \renewcommand*\leftcenterright{}
470
471 \renewcommand{\leftspringright}[4]{%
472 \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
473 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
474 }
475
476 \renewenvironment*{blockdescription}
477 {\LWR@descriptionstart\LWR@origdescription}
478 {\enddescription}
479
480 \renewcommand*\blockdescriptionlabel[1]{\textbf{#1}}
481 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
482 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
483 \renewcommand*\tightlists{}
484 \renewcommand*\defaultlists{}
485 \RenewDocumentCommand{\firmlists}{s}{}
486 \renewcommand*\firmlist{}
487 \renewcommand*\tightlist{}
488 \renewcommand*\zerotrivseps{}
489 \renewcommand*\savetrvseps{}
490 \renewcommand*\restoretrvseps{}
```

### § 688.10 Contents lists

```
491 \csletcs{tableofcontents*}{tableofcontents}
492 \csletcs{listoffigures*}{listoffigures}
493 \csletcs{listoftables*}{listoftables}
494 \renewenvironment{KeepFromToc}{}{}
495 \renewcommand*\onecoltocetc{}
496 \renewcommand*\twocoltocetc{}
497 \renewcommand*\ensureonecol{}
498 \renewcommand*\restorefromonecol{}
499 \renewcommand*\doccoltocetc{}
500
501 \renewcommand{\tocheadstart}{}
502 \renewcommand{\printtictitle}[1]{}
503 \renewcommand{\tocmark}{}
504 \renewcommand{\aftertictitle}{}
505 \renewcommand{\lofheadstart}{}
506 \renewcommand{\printloftitle}[1]{}
507 \renewcommand{\lofmark}{}
508 \renewcommand{\afterloftitle}{}
509
```

```
509 \renewcommand{\lotheadstart}{}
510 \renewcommand{\printlottitle}[1]{}
511 \renewcommand{\lotmark}{}
512 \renewcommand{\afterlottitle}{}
513
514 \renewcommand*\setpnumwidth[1]{}
515 \renewcommand*\setrmarg[1]{}
516 \renewcommand*\cftbookbreak{}
517 \renewcommand*\cftpabreak(){}
518 \renewcommand*\cftchapterbreak{}

519 % \newlength{\cftbeforebookskip}
520 % \newlength{\cftbookindent}
521 % \newlength{\cftbooknumwidth}
522 \renewcommand*\cftbookfont{}
523 \renewcommand*\cftbookname{}
524 \renewcommand*\cftbookpresnum{}
525 \renewcommand*\cftbookaftersnum{}
526 \renewcommand*\cftbookaftersnumb{}
527 \renewcommand*\cftbookleader{}
528 \renewcommand*\cftbookdotsep{1}
529 \renewcommand*\cftbookpagefont{}
530 \renewcommand*\cftbookafterpnum{}
531 \renewcommand*\cftbookformatpnum[1]{}
532 \renewcommand*\cftbookformatpnumhook[1]{}
```

Part is already defined by tocloft.

```
533 % \newlength{\cftbeforechapterskip}
534 % \newlength{\cftchapterindent}
535 % \newlength{\cftchapternumwidth}
536 \renewcommand*\cftchapterfont{}
537 \renewcommand*\cftchaptername{}
538 \renewcommand*\cftchapterpresnum{}
539 \renewcommand*\cftchapteraftersnum{}
540 \renewcommand*\cftchapteraftersnumb{}
541 \renewcommand*\cftchapterleader{}
542 \renewcommand*\cftchapterdotsep{1}
543 \renewcommand*\cftchapterpagefont{}
544 \renewcommand*\cftchapterafterpnum{}
545 \renewcommand*\cftchapterformatpnum[1]{}
546 \renewcommand*\cftchapterformatpnumhook[1]{}

547 % \newlength{\cftbeforesectionsip}
548 % \newlength{\cftsectionindent}
549 % \newlength{\cftsectionnumwidth}
550 \renewcommand*\cftsectionfont{}
551 \renewcommand*\cftsectionname{}
552 \renewcommand*\cftsectionpresnum{}
553 \renewcommand*\cftsectionaftersnum{}
554 \renewcommand*\cftsectionaftersnumb{}
555 \renewcommand*\cftsectionleader{}
556 \renewcommand*\cftsectiondotsep{1}
557 \renewcommand*\cftsectionpagefont{}
558 \renewcommand*\cftsectionafterpnum{}
559 \renewcommand*\cftsectionformatpnum[1]{}
```

```
560 \renewcommand*{\cftsectionformatpnumhook}[1]{}

561 % \newlength{\cftbeforesubsectionskip}
562 % \newlength{\cftsubsectionindent}
563 % \newlength{\cftsubsectionnumwidth}
564 \renewcommand*{\cftsubsectionfont}={}
565 \renewcommand*{\cftsubsectionname}={}
566 \renewcommand*{\cftsubsectionpresnum}={}
567 \renewcommand*{\cftsubsectionaftersnum}={}
568 \renewcommand*{\cftsubsectionaftersnumb}={}
569 \renewcommand*{\cftsubsectionleader}={}
570 \renewcommand*{\cftsubsectiondotsep}{1}
571 \renewcommand*{\cftsubsectionpagefont}={}
572 \renewcommand*{\cftsubsectionafterpnum}={}
573 \renewcommand*{\cftsubsectionformatpnum}[1]{}
574 \renewcommand*{\cftsubsectionformatpnumhook}[1]{}

575 % \newlength{\cftbeforesubsubsectionskip}
576 % \newlength{\cftsubsubsectionindent}
577 % \newlength{\cftsubsubsectionnumwidth}
578 \renewcommand*{\cftsubsubsectionfont}={}
579 \renewcommand*{\cftsubsubsectionname}={}
580 \renewcommand*{\cftsubsubsectionpresnum}={}
581 \renewcommand*{\cftsubsubsectionaftersnum}={}
582 \renewcommand*{\cftsubsubsectionaftersnumb}={}
583 \renewcommand*{\cftsubsubsectionleader}={}
584 \renewcommand*{\cftsubsubsectiondotsep}{1}
585 \renewcommand*{\cftsubsubsectionpagefont}={}
586 \renewcommand*{\cftsubsubsectionafterpnum}={}
587 \renewcommand*{\cftsubsubsectionformatpnum}[1]{}
588 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{}

589 % \newlength{\cftbeforeparagraphskip}
590 % \newlength{\cftpaginindent}
591 % \newlength{\cftpaginnumwidth}
592 \renewcommand*{\cftpaginfont}={}
593 \renewcommand*{\cftpaginname}={}
594 \renewcommand*{\cftpaginpresnum}={}
595 \renewcommand*{\cftpaginaftersnum}={}
596 \renewcommand*{\cftpaginaftersnumb}={}
597 \renewcommand*{\cftpaginleader}={}
598 \renewcommand*{\cftpagindotsep}{1}
599 \renewcommand*{\cftpaginpagefont}={}
600 \renewcommand*{\cftpaginafterpnum}={}
601 \renewcommand*{\cftpaginformatpnum}[1]{}
602 \renewcommand*{\cftpaginformatpnumhook}[1]{}

603 % \newlength{\cftbeforesubparagraphskip}
604 % \newlength{\cftsubparagraphindent}
605 % \newlength{\cftsubparagraphnumwidth}
606 \renewcommand*{\cftsubparagraphfont}={}
607 \renewcommand*{\cftsubparagraphname}={}
608 \renewcommand*{\cftsubparagraphpresnum}={}
609 \renewcommand*{\cftsubparagraphaftersnum}={}
610 \renewcommand*{\cftsubparagraphaftersnumb}={}
611 \renewcommand*{\cftsubparagraphleader}={}
```

```
612 \renewcommand*\{\cftsubparagraphdotsep}{1}
613 \renewcommand*\{\cftsubparagraphpagefont}{}
614 \renewcommand*\{\cftsubparagraphafterpnum}{}
615 \renewcommand*\{\cftsubparagraphformatpnum}[1]{}
616 \renewcommand*\{\cftsubparagraphformatpnumhook}{1}{}}

617 % \newlength{\cftbeforefigureskip}
618 % \newlength{\cftfigureindent}
619 % \newlength{\cftfigurenumwidth}
620 \renewcommand*\{\cftfigurefont}{}
621 \renewcommand*\{\cftfigurename}{}
622 \renewcommand*\{\cftfigurepresnum}{}
623 \renewcommand*\{\cftfigureaftersnum}{}
624 \renewcommand*\{\cftfigureaftersnumb}{}
625 \renewcommand*\{\cftfigureleader}{}
626 \renewcommand*\{\cftfiguredotsep}{1}
627 \renewcommand*\{\cftfigurepagefont}{}
628 \renewcommand*\{\cftfigureafterpnum}{}
629 \renewcommand*\{\cftfigureformatpnum}[1]{}
630 \renewcommand*\{\cftfigureformatpnumhook}{1}{}}

631 % \newlength{\cftbeforesubfigureskip}
632 % \newlength{\cftsubfigureindent}
633 % \newlength{\cftsubfigurenumwidth}
634 \newcommand*\{\cftsubfigurefont}{}
635 \newcommand*\{\cftsubfigurename}{}
636 \newcommand*\{\cftsubfigurepresnum}{}
637 \newcommand*\{\cftsubfigureaftersnum}{}
638 \newcommand*\{\cftsubfigureaftersnumb}{}
639 \newcommand*\{\cftsubfigureleader}{}
640 \newcommand*\{\cftsubfiguredotsep}{1}
641 \newcommand*\{\cftsubfigurepagefont}{}
642 \newcommand*\{\cftsubfigureafterpnum}{}
643 \newcommand*\{\cftsubfigureformatpnum}[1]{}
644 \newcommand*\{\cftsubfigureformatpnumhook}{1}{}}

645 % \newlength{\cftbeforetables skip}
646 % \newlength{\cfttableindent}
647 % \newlength{\cfttablenumwidth}
648 \renewcommand*\{\cfttablefont}{}
649 \renewcommand*\{\cfttablename}{}
650 \renewcommand*\{\cfttablepresnum}{}
651 \renewcommand*\{\cfttableaftersnum}{}
652 \renewcommand*\{\cfttableaftersnumb}{}
653 \renewcommand*\{\cfttableleader}{}
654 \renewcommand*\{\cfttabledotsep}{1}
655 \renewcommand*\{\cfttablepagefont}{}
656 \renewcommand*\{\cfttableafterpnum}{}
657 \renewcommand*\{\cfttableformatpnum}[1]{}
658 \renewcommand*\{\cfttableformatpnumhook}{1}{}}

659 % \newlength{\cftbeforesubtables skip}
660 % \newlength{\cftsubtableindent}
661 % \newlength{\cftsubtablenumwidth}
662 \renewcommand*\{\cftsubtablefont}{}
663 \renewcommand*\{\cftsubtablename}{}
```

```

664 \newcommand*{\cftsubtablepresnum}{}
665 \newcommand*{\cftsubtableaftersnum}{}
666 \newcommand*{\cftsubtableaftersnumb}{}
667 \newcommand*{\cftsubtableleader}{}
668 \newcommand*{\cftsubtabledotsep}{1}
669 \newcommand*{\cftsubtablepagefont}{}
670 \newcommand*{\cftsubtableafterpnum}{}
671 \newcommand*{\cftsubtableformatpnum}{1}{}
672 \newcommand*{\cftsubtableformatpnumhook}{1}{}

673 \renewcommand*{\booknumberline}{1}{}
674 \renewcommand*{\partnumberline}{1}{}
675 \renewcommand*{\chapternumberline}{1}{}
676 \renewcommand*{\numberlinehook}{1}{}
677 % \renewcommand*{\cftwhatismyname}{}
678 \renewcommand*{\booknumberlinehook}{1}{}
679 \renewcommand*{\partnumberlinehook}{1}{}
680 \renewcommand*{\chapternumberlinehook}{1}{}
681 \renewcommand{\numberlinebox}{2}{}
682 \renewcommand{\booknumberlinebox}{2}{}
683 \renewcommand{\partnumberlinebox}{2}{}
684 \renewcommand{\chapternumberlinebox}{2}{}
685 %

686 % \newlength{\cftparskip}
687 \renewcommand*{\cftpagenumbersoff}{1}{}
688 \renewcommand*{\cftpagenumberson}{1}{}
689 \renewcommand*{\cftlocalchange}{3}{}
690 \renewcommand*{\cftaddtitleline}{4}{}
691 \renewcommand*{\cftaddnumtitleline}{4}{}
692 \renewcommand{\cftinsertcode}{2}{}
693 \renewcommand{\cftinserthook}{2}{}
694 \renewcommand{\settocpreprocessor}{2}{}
695 \DeclareRobustCommand{\cftpagenumbersoff}{1}{}
696 \DeclareRobustCommand{\cftpagenumberson}{1}{}

```

## § 688.11 Floats and captions

\@xfloat

@dblfloat Reestablish lwarf's takeover the float handing, which memoir tried to grab:

```

697 \AtBeginDocument{
698 \def\xfloat #1[#2]{%
699 \LWR@floatbegin{#1}[#2]
700 \normalsize
701 \nameuse{#1adjustment}%
702 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
703 }
704 \def\xdblfloat #1[#2]{%
705 \LWR@floatbegin{#1}[#2]
706 \normalsize
707 \nameuse{#1adjustment}%
708 \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
709 }
710 }

```

```

\newfloat [<1: within] {<2: type} {<3: ext} {<4: capname}]

711 \RenewDocumentCommand{\newfloat}{o m m m}{%
712 \def\LWR@tempone{#4}%
713 \def\LWR@temptwo{\@nameuse{#2name}}%
714 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
715 \IfValueTF{#1}%
716 {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
717 {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
718 }{%
719 \IfValueTF{#1}%
720 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
721 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
722 }%
723 }
```

**newfloat** package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

723 \cslet{listof#2s}\relax%
724 \cslet{listof#2es}\relax%
725 }
```

```
\newlistof [<1: within] {<2: type} {<3: ext} {<4: listofname}]
```

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

726 \RenewDocumentCommand{\newlistof}{o m m m}{%
727 }{%
728 \IfValueTF{#1}%
729 {\newlistentry[#1]{#2}{#3}{0}}%
730 {\newlistentry[#2]{#3}{0}}%
731 \@namedef{ext@#2}{#3}%
732 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
733 \setcounter{#3depth}{1}%
734 \@namedef{#3mark}{}%
735 \@namedef{#2}{\LWR@listof{#2}{#4}}%
736 \@namedef{@cftmake#3title}{}%
737 \@ifundefined{cftbefore#3titleskip}{%
738 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
739 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
740 }{}%
741 \@namedef{cft#3titlefont}{}%
742 \@namedef{cftafter#3title}{}%
743 \@namedef{cft#3prehook}{}%
744 \@namedef{cft#3posthook}{}%
745 }
```

```
746 \renewcommand{\setfloatadjustment}[2]{}
```

Borrowed from the `lwarp` version of `keyfloat`:

```

747 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{O{-1.2ex} m}{%
748 }{%
749 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}(note){marginblock}%
750 \renewcommand*{\@capttype}{#2}%
751 }
```

```
751 }
752 {%
753 \endLWR@BlockClassWP%
754 }
755
756 \DeclareDocumentEnvironment{marginfigure}{o}
757 {\begin{KFLTmemoir@marginfloat}{figure}}
758 {\end{KFLTmemoir@marginfloat}}
759
760 \DeclareDocumentEnvironment{marginable}{o}
761 {\begin{KFLTmemoir@marginfloat}{table}}
762 {\end{KFLTmemoir@marginfloat}}

763 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
764 \renewcommand{\setmpjustification}[2]{}
765 \renewcommand*\mpjustification(){}
766 \renewcommand*\setfloatlocations[2]{}
767 \DeclareDocumentCommand{\suppressfloats}{o}{}
768 \renewcommand*\FloatBlock(){}
769 \renewcommand*\FloatBlockAllowAbove(){}
770 \renewcommand*\FloatBlockAllowBelow){}
771 \renewcommand*\setFloatBlockFor(){}
772
773 \renewcommand{\captiontitlefinal}[1]{}
```

\fleitable, \flegfigure, \flegtatable, \flegtocfigure are defined by memoir using \newfloat. These are defined with an @ in ccaption.

```
774 \renewcommand{\fleitable}{\tablename}
775 \renewcommand{\flegfigure}{\figurename}
776 \renewcommand{\flegtatable}{}
777 \renewcommand{\flegtocfigure}{}

778 \renewcommand{\@makesubfloatcaption}[2]{%
779 \minipage{fullwidth}
780 \begin{minipage}{\linewidth}%
781 #1 \ignorespaces #2 \unskip%
782 \end{minipage}
783 }
784
785 \renewcommand*\tightsubcaptions(){}
786 \renewcommand*\loosesubcaptions(){}
787
788 \renewcommand*\subcaptionsize[1]{}
789 \renewcommand*\subcaptionlabelfont[1]{}
790 \renewcommand*\subcaptionfont[1]{}
791 \renewcommand*\subcaptionstyle[1]{}
792
793 \renewcommand*\hangsubcaption(){}
794 \renewcommand*\shortsubcaption){}
795 \renewcommand*\normalsubcaption){}
796
797 \RenewDocumentEnvironment{sidecaption}{o m o}
798 {}}
```

```
799 {%
800 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
801 \IfValueT{#3}{\label{#3}}%
802 }
803
804 % \newlength{\sidecapwidth}
805 % \newlength{\sidecapsep}
806 \renewcommand*{\setsidecaps}[2]{}%
807 \renewcommand*{\sidecapmargin}[1]{}%
808 % \newif\ifscapmargleft
809 \scapmargleftfalse
810 \renewcommand*{\setsidecappos}[1]{}%
```

Env sidecontcaption

```
811 \RenewDocumentEnvironment{sidecontcaption}{m o}
812 {}
813 {%
814 \ifdef{\ContinuedFloat}%
815 {\ContinuedFloat}%
816 {\addtocounter{@cotype}{-1}}%
817 \caption{#1}%
}
```

Without \@cotype, the section is referred to instead.

```
818 \IfValueT{#2}{\label{@cotype}{#2}}%
819 }
```

\sidenamelegend does not appear to use the TOC argument.

```
820 \renewenvironment{sidenamelegend}[2][]{
821 \begin{center}
822 \nameuse{@cotype name}\CaptionSeparator#2
823 \end{center}
824 }
825 {}
826
827 \renewenvironment{sidelegend}[1]
828 {\begin{center}
829 #1
830
831 }
832 {\end{center}}
833
834 \renewcommand*{\sidecapstyle}{}%
835 \renewcommand*{\overridescapmargin}[1]{}%
836 % \newlength{\sidecappraise}
837 \renewcommand*{\sidecapfloatwidth}{\linewidth}
838
839 \LetLtxMacro\ctabular\tabular
840 \LetLtxMacro\endctabular\endtabular
841
842 \renewcommand{\autorows}[5][]{%
843 #5%
844 }
845
```

```
846 \renewcommand{\autocols}[5][]{%
847 #5%
848 }
```

### § 688.12 Footnotes and page notes

```
849 \renewcommand*{\feetabovefloat}{}%
850 \renewcommand*{\feetbelowfloat}{}%
851 \renewcommand*{\feetatbottom}{}%
852
853 \renewcommand*{\verbfootnote}[2][]{%
854 \PackageError{l warp,memoir}%
855 {Verbatim footnotes are not yet supported by l warp}%
856 {This may be improved some day.}%
857 }
858
859 \renewcommand*{\plainfootnotes}{}%
860 \renewcommand*{\twocolumnfootnotes}{}%
861 \renewcommand*{\threecolumnfootnotes}{}%
862 \renewcommand*{\paragraphfootnotes}{}%
863 \renewcommand*{\footfudgefiddle}{}%
864
865 \renewcommand*{\newfootnoteseries}[1]{%
866 \PackageError{l warp,memoir}%
867 {Memoir footnote series are not yet supported by l warp}%
868 {This may be improved some day.}%
869 }
870
871 \renewcommand*{\plainfootstyle}[1]{}%
872 \renewcommand*{\twocolumnfootstyle}[1]{}%
873 \renewcommand*{\threecolumnfootstyle}[1]{}%
874 \renewcommand*{\paragraphfootstyle}[1]{}%
875
876 \renewcommand*{\footfootmark}{}%
877 \renewcommand*{\footmarkstyle}[1]{}%
878
879 % \newlength{\footmarkwidth}%
880 % \newlength{\footmarksep}%
881 % \newlength{\footparindent}%
882
883 \renewcommand*{\foottextfont}{}%
884
885 \renewcommand*{\marginparmargin}[1]{}%
886 \renewcommand*{\sideparmargin}[1]{}%
887
888 \LetLtxMacro{\sidepar}{\marginpar}
889 \renewcommand*{\sideparfont}{}%
890 \renewcommand*{\sideparform}{}%
891 \LWR@providelength{\sideparvshift}%
892
893 \renewcommand*{\parnopar}{}%
894
895 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}%
896 \renewcommand*{\sidebarmargin}[1]{}%
897 \renewcommand*{\sidebarfont}{}%
```

```

898 \renewcommand*\{\sidebarform\}{}%
899 % \newlength{\sidebarhsep}%
900 % \newlength{\sidebarvsep}%
901 % \newlength{\sidebarwidth}%
902 % \newlength{\sidebartopsep}%
903 \renewcommand{\setsidebarheight}[1]{}%
904 \renewcommand*\{\setsidebars}[6]{}%
905 \renewcommand*\{\footnotesatfoot}{}%
906 \renewcommand*\{\footnotesinmargin}{}%
907
908 \LetLtxMacro{\sidefootnote}{\footnote}
909 \LetLtxMacro{\sidefootnotemark}{\footnotemark}
910 \LetLtxMacro{\sidefootnotetext}{\footnotetext}
911
912 \renewcommand*\{\sidefootmargin}[1]{}%
913 % \newlength{\sidefoothsep}%
914 % \newlength{\sidefootvsep}%
915 % \newlength{\sidefootwidth}%
916 % \newlength{\sidefootadjust}%
917 % \newlength{\sidefootheight}%
918 \renewcommand*\{\setsidefootheight}[1]{}%
919 % \renewcommand*\{\sidefootfont}{}% in docs but not in the package
920 \renewcommand*\{\setsidefeet}[6]{}%
921 \renewcommand*\{\sidefootmarkstyle}[1]{}%
922 \renewcommand*\{\sidefoottextfont}{}%
923 \renewcommand*\{\sidefootform}{}%

924 \renewcommand*\{\continuousnotenums}{\pncntopttrue}% from pagenote
925 \renewcommand*\{\notepageref}{}%
926 \renewcommand*\{\prenotetext}{}%
927 \renewcommand*\{\postnotetext}{}%
928 \LetLtxMacro{\printpageinnotes}{\hyperref{\printpageinnotes}}
929 \renewcommand*\{\foottopagenote}{}%
930 \renewcommand*\{\pagetofootnote}{}%

```

\m@m@wrpnote

\startnoteentrystart To have `\cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the .ent file:

`\startnoteentry{\thepagenote}{\arabic{pagenote}} ...`

The arabic value is required for `\cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

⚠ \nameref

Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```

931 \xpatchcmd{\m@m@wrpnote}
932 {\string\startnoteentry{\thepagenote}}
933 {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}
934 {}
935 {\LWR@patcherror{memoir}{m@m@wrpnote}}
936
937 \renewcommand\startnoteentrystart[4]{%
938 \prenoteinnotes%

```

```

939 \noteidinnotes{\@firstoftwo#1}{#2}%
940 \@ifmtarg{#2}{%
941 % \phantomsection\def\@currentlabel{#1}%
942 \def\@currentlabel{\@firstoftwo#1}%
943 \def\cref{\@currentlabel{%
944 [pagenote][\@secondoftwo#1][]\@firstoftwo#1%}
945 }%
946 }{}%
947 \pagenoteanchor{#4}%
948 \pageinnotes{#3}%
949 \prenotetext%
950 }

```

### § 688.13 Decorative text

```

951 \renewcommand*\epigraphposition[1]{}%
952 \renewcommand*\epigraphtextposition[1]{}%
953 \renewcommand*\epigraphsourceposition[1]{}%
954 \renewcommand*\epigraphfontsize[1]{}%
955 \renewcommand*\epigraphforheader[2]{}%
956 \renewcommand*\epigraphpicture(){}

```

### § 688.14 Poetry

```

957 \renewcommand*\vphantom{}%
958 \renewcommand*\leftofline[1]{#1}%
959 % \let\linenumberfrequency\poemlines
960 % \renewcommand*\linenumberfont[1]{}%
961
962 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
963 \IfValueTF{#2}{%
964 {\poemtitle[#2]{#4}}%
965 {\poemtitle{#4}}%
966 }%
967
968 \renewcommand*\NumberPoemTitle{}%
969 \renewcommand*\PlainPoemTitle{}%
970 \renewcommand*\poemtitlepstyle{}%
971 \renewcommand*\poemtitlestarmark[1]{}%
972 \renewcommand*\poemtitlestarpstyle{}%
973 \renewcommand*\PoemTitleheadstart{}%
974 \renewcommand*\printPoemTitlenonum{}%
975 \renewcommand*\printPoemTitlenum{}%
976 \renewcommand*\afterPoemTitlenum{}%
977 \renewcommand*\printPoemTitletitle[1]{}%
978 \renewcommand*\afterPoemTitle{}%
979 \newlength{\midpoemtitleskip}%
980 \renewcommand*\PoemTitlenumfont{}%
981 \renewcommand*\PoemTitlefont{}%

```

### § 688.15 Boxes, verbatims and files

```

982 \renewenvironment{qframe}{\framed}{\endframed}%
983 \renewenvironment{qshade}{\shaded}{\endshaded}%

```

---

```

984 \renewcommand*{\setverbatimfont}[1]{}
985 \renewcommand*{\tabson}[1]{}
986 \renewcommand*{\tabsoff}{}
987 \renewcommand*{\wrappingon}{}
988 \renewcommand*{\wrappingoff}{}
989 \renewcommand*{\verbatimindent}{}
990 \renewcommand*{\verbatimbreakchar}[1]{}

991 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

`boxedverbatim` is already defined by `moreverb`. `boxedverbatim*` does not appear to work at all, even in a minimal print `memoir` document.

```

992 \renewcommand*{\bvbox}{}
993 \renewcommand*{\bvtopandtail}{}
994 \renewcommand*{\bvsides}{}
995 \renewcommand*{\nobvbox}{}
996 % \newlength\b vboxsep
997 \renewcommand*{\bvtoprulehook}{}
998 \renewcommand*{\bvtomidhook}{}
999 \renewcommand*{\b vendrulehook}{}
1000 \renewcommand*{\bvleftsidehook}{}
1001 \renewcommand*{\b vrightsidehook}{}
1002 \renewcommand*{\b vperpagetrue}{}
1003 \renewcommand*{\b vperpagefalse}{}
1004 \renewcommand{\b vtopofpage}[1]{}
1005 \renewcommand{\b vendofpage}[1]{}
1006 \renewcommand*{\linenumberfrequency}[1]{}
1007 \renewcommand*{\resetb vlinenumber}{}
1008 \renewcommand*{\setb vlinenums}[2]{}
1009 \renewcommand*{\linenumberfont}[1]{}
1010 \renewcommand*{\b vnumbersinside}{}
1011 \renewcommand*{\b vnumbersoutside}{}

```

## § 688.16 Cross referencing

```

1012 \renewcommand*{\fref}[1]{\cref{#1}}
1013 \renewcommand*{\tref}[1]{\cref{#1}}
1014 \renewcommand*{\pref}[1]{\c pageref{#1}}
1015 \renewcommand*{\Aref}[1]{\c ref{#1}}
1016 \renewcommand*{\Bref}[1]{\c ref{#1}}
1017 \renewcommand*{\Pref}[1]{\c ref{#1}}
1018 \renewcommand*{\Sref}[1]{\c ref{#1}}
1019 \renewcommand*{\figurerefname}{Figure}
1020 \renewcommand*{\tablerefname}{Table}
1021 \renewcommand*{\pagerefname}{page}
1022 \renewcommand*{\bookrefname}{Book~}
1023 \renewcommand*{\partrefname}{Part~}
1024 \renewcommand*{\chapterrefname}{Chapter~}
1025 \renewcommand*{\sectionrefname}{\S}
1026 \renewcommand*{\appendixrefname}{Appendix~}
1027 \LetLtxMacro{\titleref}{\nameref}
1028 \renewcommand*{\headnameref}{}
1029 \renewcommand*{\tocnameref}{}
1030

```

```

1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*{\currenttitle}{%
1034 \addtocounter{LWR@currenttitle}{1}%
1035 \label{currenttitle}\arabic{LWR@currenttitle}}%
1036 \nameref{currenttitle}\arabic{LWR@currenttitle}}%
1037 }
1038
1039 \renewcommand*{\theTitleReference}[2]{}
1040 \renewcommand*{\namerefon}{}
1041 \renewcommand*{\namerefoff}{}

```

### § 688.17 Back matter

\@wrindexhyp Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

1042 \AtBeginDocument{
1043
1044 \def\@wrindexhyp#1|||\{%
1045 \addtocounter{LWR@autoindex}{1}%
1046 \label{LWRindex-\arabic{LWR@autoindex}}%
1047 % \ifshowindexmark\@showidx{#1}\fi
1048 \protected@write@auxout{}{%
1049 {\string\@wrindexm@{\@idxfile}{#1}{\thepage}}%
1050 {\string\@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}}%
1051 \endgroup
1052 \esphack}%

```

\@wrspindexhyp \specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```

1053 \def\@wrspindexhyp#1|||\{%
1054 \addtocounter{LWR@autoindex}{1}%
1055 \label{LWRindex-\arabic{LWR@autoindex}}%
1056 % \ifshowindexmark\@showidx{#1}\fi
1057 \protected@write@auxout{}{%
1058 {\string\@wrindexm@{\@idxfile}{#1}{\@nameuse{the\@sptheadidx}}}}%
1059 {\string\@wrindexm@{\@idxfile}{#1}{\arabic{LWR@autoindex}}}}%
1060 \endgroup
1061 \esphack}%
1062
1063 }% \AtBeginDocument

```

\@spindex Patched to append \_html to the file:

```

1064 \renewcommand{\@spindex}[2]{%
1065 \@ifundefined{#1@idxfile}%
1066 {\@ifreportnoidxfile
1067 \@memwarn{Undefined index file #1}%
1068 \fi
1069 \begingroup
1070 \@sanitize
1071 \@nowrindex}%

```

```

1072 { \def\@idxfile{\#1_html}%
1073 \def\@sptheidx{\#2}%
1074 \begingroup
1075 \@sanitize
1076 \@wrspindex} }
```

\makeindex Patched to use \_html filename and \BaseJobname:

```

1077 \catcode`_=12%
1078 \renewcommand*{\makeindex}[1][\BaseJobname]{%
1079 \if@files
1080 \def\gindex{\@bsphack%
1081 \@ifnextchar [{\@index}{\@index[\BaseJobname]}}%
1082 \def\specialindex{\@bsphack\@spindex}%
1083 \makememindexhook
1084 \expandafter\newwrite\csname #1@idxfile\endcsname
1085 \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1086 \typeout{Writing index file #1_html.idx }%
1087 \fi}
1088 \catcode`_=8%
```

\printindex Patched to use \_html filename and \BaseJobname. This will later be patched by the lwarp core.

```

1089 \catcode`_=12%
1090 \renewcommand{\printindex}[1][\BaseJobname]{\@input{\#1_html.ind}}
1091 \catcode`_=8%
1092 \DeclareDocumentCommand{\newblock}{}{%
1093 %
1094 \renewcommand*{\showindexmarks}{}%
1095 \renewcommand*{\hideindexmarks}{}%
1096 %
1097 \renewcommand*{\xindyindex}{}}
```

### § 688.18 Miscellaneous

```

1098 \renewcommand*{\changemarks}{}%
1099 \renewcommand*{\nochangemarks}{}%
1100 \renewcommand*{\added}[1]{}%
1101 \renewcommand*{\deleted}[1]{}%
1102 \renewcommand*{\changed}[1]{}%
1103 %
1104 \renewcommand*{\showtrimsoff}{}%
1105 \renewcommand*{\showtrimson}{}%
1106 \renewcommand*{\trimXmarks}{}%
1107 \renewcommand*{\trimLmarks}{}%
1108 \renewcommand*{\trimFrame}{}%
1109 \renewcommand*{\trimNone}{}%
1110 \renewcommand*{\trimmarkscolor}{}%
1111 \renewcommand*{\trimmarks}{}%
1112 \renewcommand*{\tmarktl}{}%
1113 \renewcommand*{\tmarktr}{}%
1114 \renewcommand*{\tmarkbr}{}%
```

```

1115 \renewcommand*\{\tmarkbl\}{}
1116 \renewcommand*\{\tmarktm\}{}
1117 \renewcommand*\{\tmarkmr\}{}
1118 \renewcommand*\{\tmarkbm\}{}
1119 \renewcommand*\{\tmarkml\}{}
1120 \renewcommand*\{\trimmark\}{}
1121 \renewcommand*\{\quarkmarks\}{}
1122 \renewcommand*\{\registrationColour\}[1]{}
1123
1124 \renewcommand*\{\leavespergathering\}[1]{}
1125
1126 \renewcommand*\{\noprelistbreak\}{}
1127
1128 \renewcommand*\{\cleartorecto\}{}
1129 \renewcommand*\{\cleartoverso\}{}
1130
1131 \renewenvironment{vplace}[1][]{}

```

### § 688.19 ccaption emulation

```

1132 \renewcommand*\{\captiondelim\}[1]{\renewcommand*\{\CaptionSeparator\}{#1}}
1133 \renewcommand*\{\captionnamefont\}[1]{}
1134 \renewcommand*\{\captiontitlefont\}[1]{}
1135 \renewcommand*\{\flushleftright\}{}
1136 \renewcommand*\{\centerlastline\}{}
1137 \renewcommand*\{\captionstyle\}[2][]{}
1138 \DeclareDocumentCommand{\captionwidth}{m}{}
1139 \renewcommand*\{\changecaptionwidth\}{}
1140 \renewcommand*\{\normalcaptionwidth\}{}
1141 \renewcommand*\{\hangcaption\}{}
1142 \renewcommand*\{\indentcaption\}[1]{}
1143 \renewcommand*\{\normalcaption\}{}
1144 \renewcommand{\precaption\}[1]{}
1145 \renewcommand{\postcaption\}[1]{}
1146 \renewcommand{\midbicaption\}[1]{}
1147 \renewcommand{\contcaption\}[1]{%
1148 % \ContinuedFloat%
1149 % \caption\{#1\}%
1150 \begin{LWR@figcaption}\% later becomes \caption*
1151 \LWR@isolate{\@nameuse{\@capttype name}}\%
1152 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate\{#1\}%
1153 \end{LWR@figcaption}\%
1154 }

1155 \newlength{\abovelegendskip}
1156 \setlength{\abovelegendskip}{0.5\baselineskip}
1157 \newlength{\belowlegendskip}
1158 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra \\ here forces a <br> in HTML when \legend is used in a \marginpar.

```

1159 \renewcommand{\legend\}[1]{\begin{center}\#1\\\end{center}}
1160
1161 \renewcommand{\namedlegend\}[2][]{%
1162 \begin{center}

```

```

1163 \@nameuse{fleg\@capttype}\CaptionSeparator#2\\
1164 \end{center}
1165 \@nameuse{flegtoc\@capttype}{#1}
1166 }

\fleitable, \flefigure, \fletoctable, \fletocfigure are defined by memoir
using \newfloat. These are defined with an @ in ccaption.

```

```

1167 \renewcommand{\newfixedcaption}[3][\caption]{%
1168 \renewcommand{#2}{\def\@capttype{#3}#1}%
1169 \renewcommand{\renewfixedcaption}[3][\caption]{%
1170 \renewcommand{#2}{\def\@capttype{#3}#1}%
1171 \renewcommand{\providefixedcaption}[3][\caption]{%
1172 \providecommand{#2}{\def\@capttype{#3}#1}%
1173
1174 \renewcommand{\bitwonumcaption}[6][]{%
1175 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1176 \addtocounter{\@capttype}{-1}%
1177 \begingroup%
1178 \csdef{\@capttype name}{#4}%
1179 \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1180 \endgroup%
1181 \ifblank{#1}{}{\label{#1}}%
1182 }
1183
1184 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1185
1186 \renewcommand{\bicaption}[5][]{%
1187 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1188 \begin{LWR@figcaption}% later becomes \caption*
1189 \LWR@isolate{#4} % space
1190 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1191 \end{LWR@figcaption}%
1192 \ifblank{#1}{}{\label{#1}}%
1193 }
1194
1195 \renewcommand{\bicontcaption}[3]{%
1196 \contcaption{#1}%
1197 \begingroup%
1198 \csdef{\@capttype name}{#2}%
1199 \contcaption{#3}%
1200 \endgroup%
1201 }

```

Only in ccaption, not in memoir:

```

1202 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1203 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1204 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1205 \renewcommand{@memsubbody}{%
1206 \bgroup
1207 \let\label=\memsub@label

```

```
1208 \ifdonemaincaption\else
1209 \advance\csname c@\@capttype\endcsname\@ne
1210 \fi
1211 % \refstepcounter{sub\@capttype}\@contkeep%
1212 % \leavevmode% lwarp
1213 \@ifnextchar [%%
1214 {\@memsubfig}%
1215 {\@memsubfig[\@empty]}}
1216
1217 \renewcommand{\@memcontsubbody}{%
1218 \bgroup
1219 \let\label=\memsub@label
1220 \@contset
1221 % \refstepcounter{sub\@capttype}\@contkeep%
1222 % \leavevmode% lwarp
1223 \@ifnextchar [%%
1224 {\@memsubfig}%
1225 {\@memsubfig[\@empty]}}
1226
1227
1228 \long\def\@memsubfloat#1[#2][#3]#4{%
1229 % \tempcnta=\@ne
1230 % \if@tighsubcap
1231 % \if@minipage
1232 % \tempcnta=\z@
1233 % \else
1234 % \ifdim\lastskip=\z@
1235 % \tempcnta=\@ne
1236 % \else
1237 % \tempcnta=\tw@
1238 % \fi
1239 % \fi
1240 % \fi
1241 % \if@contbotsub
1242 % \def\subfig@top{\subfloat@topskip}%
1243 % \def\subfig@bottom{\subfloat@bottomskip}%
1244 % \else
1245 % \def\subfig@top{\subfloat@bottomskip}%
1246 % \def\subfig@bottom{\subfloat@topskip}%
1247 % \fi
1248 % \setbox\tempboxa\hbox{#4}%
1249 % \tempdima=\wd\tempboxa
1250 % \vbox
1251 \bgroup
1252 \mem@step@subcounter%
1253 % \vbox
1254 \LWR@stopars%
1255 \minipagefullwidth% lwarp
1256 \begin{minipage}{\linewidth}%
1257 \bgroup
1258 % \ifcase\tempcnta
1259 % \minipagetrue
1260 % \or
1261 % \vspace{\subfig@top}
1262 % \or
```

```

1263 % \ifdim \lastskip=\z@ \else
1264 % \tempskip\subfig@top\addvskip
1265 % \fi
1266 % \fi
1267 \if@contbotsub
1268 #4% \box@\tempboxa
1269 \egroup
1270 \ifx \empty\relax \else
1271 % \vskip\subfloatcapskip
1272 % \memsubcaption{\#1}{\#2}{\#3}%
1273 % \fi
1274 \else
1275 \ifx \empty\relax \else
1276 % \memsubcaption{\#1}{\#2}{\#3}%
1277 % \vskip\subfloatcapskip
1278 % \vskip\subfloatcapadj
1279 % \fi\egroup
1280 #4% \box@\tempboxa
1281 % \fi
1282 % \vspace{\subfig@bottom}
1283 \end{minipage}%
1284 \LWR@startpars%
1285 \egroup
1286 \egroup
1287 }

```

## § 688.20 Final patchwork

```

1288 \newlistof{tableofcontents}{toc}{\contentsname}
1289 \newlistof{listoffigures}{lof}{\listfigurename}
1290 \newlistof{listoftables}{lot}{\listtablename}

```

File 580 **l warp-common-multimedia.sty**

## § 689 Package **common-multimedia**

Pkg l warp-common-multimedia Common code for **multimedia**, **movie15**, and **media9**.

The packages **multimedia**, **movie15**, and **media9** are supported.

**HTML5** `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

**HTML5** `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each `HTML` multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the `HTML` document.

`HTML5` media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a `YOUTUBETM` video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```
1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]

2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}

7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}
```

`\LWR@multimedia@printsize` Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```
10 \newcommand*{\LWR@multimedia@printsize}{%
11 \setlength{\LWR@multimedia@maxdimension}{%
12 \maxof{%
13 \linewidth}%
14 {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15 }%
16 \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17 \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18 width:%
19 \LWR@printpercentlength%
20 {\LWR@multimedia@width}%
21 {\LWR@multimedia@maxdimension}vmin ; % space
22 }{%
23 \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24 height:%
25 \LWR@printpercentlength%
26 {\LWR@multimedia@height}%
27 }{%
28 }%
29 }%
```

```

27 {\LWR@multimedia@maxdimension}vmin ; % space
28 }{ }%
29 }

```

\LWR@multimedia@fileAV {⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{""}{\LWR@parsedfilename}%

```

The container <div> is sized as desired.

```

33 \ifstrequal{#3}{audio}{%
34 \begin{BlockClass}{AVviewport}
35 }{%
36 \begin{BlockClass}[{\LWR@multimedia@printsize}\ margin:auto]{AVviewport}
37 }

```

Paragraph tags are unnecessary for the A/v tags.

```
38 \LWR@stoppars
```

The A/v element is 100% of the container.

```

39 \LWR@htmltag{%
40 #3\ % space
41 \ifstrequal{#3}{audio}{%
42 width=\textquotedbl{}100\%\textquotedbl\ % space
43 height=\textquotedbl{}100\%\textquotedbl\ % space
44 }%
45 controls%
46 }\LWR@newline

```

The file source and type:

```

47 \LWR@htmltag{%
48 source % space
49 src=\textquotedbl%
50 \LWR@parsedfilename\unskip\textquotedbl\ % space
51 type=\textquotedbl{}#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the file.

```

52 \LWR@startpars
53 \LWR@href{\LWR@parsedfilename}{#1}
54 \LWR@stoppars

```

Finish.

```

55 \LWR@htmltag{/#3}\LWR@newline
56 \end{BlockClass}
57 }{%
58 \PackageError{lwarp-common-multimedia}{%
59 {File '#2' not found}%
60 {Perhaps an incorrect path?}%
61 }%
62 }

```

```
\LWR@multimedia@httpAV {⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}
```

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container <div> is sized as desired.

```
64 \ifstrequal{#3}{audio}{%
65 \begin{BlockClass}{AVviewport}
66 }{%
67 \begin{BlockClass}{[\LWR@multimedia@printsize\ margin:auto]}{AVviewport}
68 }
```

Paragraph tags are unnecessary for the a/v tags.

```
69 \LWR@stopars
```

The a/v element is 100% of the container.

```
70 \LWR@htmltag{%
71 #3\ % space
72 \ifstrequal{#3}{audio}{%
73 width=\textquotedbl{}100\%\textquotedbl\ % space
74 height=\textquotedbl{}100\%\textquotedbl\ controls%
75 }{%
76 }\LWR@orignewline
```

The file source and type:

```
77 \LWR@htmltag{%
78 source % space
79 src=\textquotedbl{}\textquotedbl\ % space
80 type=\textquotedbl{}\textquotedbl{}}
```

The poster text inside paragraph tags, along with a reference to the URL.

```
81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stopars
```

Finish.

```
84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }
```

```
\LWR@multimedia@AV {⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}
```

Creates an audio or video from a file or a URL.

```
87 \newcommand*{\LWR@multimedia@AV}[4]{%
88 \IfBeginWith{#2}{http}{%
89 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}{%
90 {%
91 \IfBeginWith{#2}{HTTP}{%
92 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}{%
93 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}{%
94 }{%
95 }}}}}}}{%
```

\LWR@multimedia@embed {⟨poster text⟩} {⟨URL or filename⟩} {⟨mime type⟩}  
 Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```

96 \newcommand*{\LWR@multimedia@embed}[3]{%
97 \begin{BlockClass}[width:100\%]{AVviewport}%
98 \LWR@stoppars
99 \LWR@htmltag{%
100 embed % space
101 \ifblank{#3}{}{type=\textquotedbl#3\textquotedbl\ }%
102 style=\textquotedbl\LWR@multimedia@printsize\ margin:auto\textquotedbl\ % space
103 src=\textquotedbl#2\textquotedbl\ % space
104 }%
105 \LWR@startpars
106 \end{BlockClass}
107 }
```

Error message if the comment character is used among the arguments of \LWR@multimediacb.

```

108 \newcommand*{\LWR@multimedia@percenterror}{%
109 \PackageError{lwarp-media9}{%
110 {%
111 Do not use a percent comment between\MessageBreak
112 \protect\includemedia\space arguments%
113 }%
114 {%
115 Percent is changed to a regular character\MessageBreak
116 to allow its use inside a URL.%%
117 }%
118 }
```

\LWR@multimediacb [⟨options⟩] {⟨poster text⟩} {⟨filename⟩}

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*{\LWR@multimediacb}[3][]{}%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120 \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121 \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122 \if#3\@percentchar\LWR@multimedia@percenterror\fi%
```

Paragraph handling:

```
123 \LWR@stoppars%
```

Record the desired size.

```

124 \setlength{\LWR@multimedia@width}{0pt}%
125 \setlength{\LWR@multimedia@height}{0pt}%
126 \setkeys*{\LWR@multimedia}{#1}%
```

If a known A/v type, create an HTML5 <video> or <audio>.

```
127 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
```

If an arbitrary URL, embed it.

```
131 \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}{}{}}{%
132 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}{}{}}{%
133 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}{}{}}{%
134 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}{}{}}{%
```

If unknown, create a link to it.

```
135 \LWR@href{#3}{#2}{% unknown format
136 }}}}{}{}}{}}
```

Paragraph handling:

```
137 \LWR@startpars%
138 \endgroup%
139 }
```

Catcodes which may appear in a URL.

```
140 \newrobustcmd*\{\LWR@multimedia}{%
141 \begingroup%
142 \LWR@linkmediacatcodes%
143 \LWR@multimediacatcodes%
144 }
```

### File 581 **lwarp-common-mathjax-letters.sty**

#### § 690 Package **common-mathjax-letters**

Pkg **lwarp-common-mathjax-letters** Common code used by a number of packages to generate Greek math characters for MATHJAX.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {<2: capitalize name?>} {<3: prefix>} {<4: postfix>} {<5: name>} {<6: unicode>}

Star to italicize the result, used when the unicode character does not exist.

```
2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{%
5 \IfBooleanTF{#2}{%
6 \edef\LWR@tempone{\LWRtexttitlecase{#5}}{%
7 \edef\LWR@tempone{#5}}{%
8 \xdef\LWR@customizedMathJax{%
9 \LWR@customizedMathJax{%
10 \LWRbackslash{%
```

```

11 \LWRbackslash def\LWRbackslash%
12 #3% prefix
13 \LWR@tempone%name
14 #4% postfix
15 \LWRleftbrace%
16 }%
17 \IfBooleanTF{#1}{%
18 \xdef\LWR@customizedMathJax{%
19 \LWR@customizedMathJax%
20 \LWRbackslash mathit\LWRleftbrace%
21 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22 \LWRrightbrace%
23 }%
24 }{%
25 \xdef\LWR@customizedMathJax{%
26 \LWR@customizedMathJax%
27 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28 }%
29 }%
30 \xdef\LWR@customizedMathJax{%
31 \LWR@customizedMathJax%
32 \LWRrightbrace\LWRbackslash)\par%
33 }%
34 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{%
36 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}%
37 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{03B2}%
38 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}%
39 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{03B3}%
40 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}%
41 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}%
42 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}%
43 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}%
44 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}%
45 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}%
46 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}%
47 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}%
48 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{03B9}%
49 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{03BA}%
50 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{03F0}%
51 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{03BB}%
52 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{03BC}%
53 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{03BD}%
54 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{03BE}%
55 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{03BF}%
56 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03C0}%
57 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}%
58 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03C1}%

```

```

59 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{03F1}
60 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{03C3}
61 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{03C2}
62 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{03C4}
63 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{03C5}
64 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{03D5}
65 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{03C6}
66 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{03C7}
67 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{03C8}
68 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{03C9}
69 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{0391}
72 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{0392}
73 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{0393}
74 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{digamma}{03DC}
75 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{0394}
76 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{0395}
77 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{0396}
78 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{0397}
79 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{0398}
80 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{03F4}
81 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{0399}
82 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{039A}
83 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{039B}
84 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{039C}
85 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{039D}
86 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{039E}
87 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{039F}
88 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{03A0}
89 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{03D6}
90 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{03A1}
91 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{03A3}
92 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{03A4}
93 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{03A5}
94 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{03A6}
95 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{03A7}
96 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{03A8}
97 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{03A9}
98 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```
99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
```

```

100 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6FC}
101 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6FD}
102 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varbeta}{03D0}
103 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6FE}
104 \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DD}
105 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6FF}
106 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D716}
107 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varepsilon}{1D700}
108 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D701}
109 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D702}
110 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D703}
111 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D717}
112 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D704}
113 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D705}
114 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{1D718}
115 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D706}
116 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D707}
117 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D708}
118 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D709}
119 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D70A}
120 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D70B}
121 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{1D71B}
122 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D70C}
123 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{1D71A}
124 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D70E}
125 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{1D70D}
126 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D70F}
127 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D710}
128 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D719}
129 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{1D711}
130 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D712}
131 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D713}
132 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D714}
133 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D6E2}
136 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D6E3}
137 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D6E4}
138 \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DC}
139 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D6E5}
140 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D6E7}
142 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D6E8}
143 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D6E9}
144 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D6EA}
146 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D6EB}
147 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D6EC}

```

\LWR@mathjax@addgreek@u@it

```

148 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D6ED}
149 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D6EE}
150 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D6EF}
151 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D6F0}
152 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D6F1}
153 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D6F2}
154 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D6F4}
155 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D6F5}
156 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D6F7}
158 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D6F8}
159 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D6F9}
160 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D6FA}
161 }

```

\* {<2: prefix>} {<3: postfix>}

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{%
163 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{alpha}{1D736}
164 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{beta}{1D737}
165 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varbeta}{03D0}
166 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{gamma}{1D738}
167 \LWR@mathjax@addletter*{\#1}{\#2}{\#3}{digamma}{03DD}
168 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{delta}{1D739}
169 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{epsilon}{1D750}
170 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{zeta}{1D73B}
172 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{eta}{1D73C}
173 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{theta}{1D73D}
174 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D751}
175 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D73E}
176 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D73F}
177 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varkappa}{1D752}
178 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D740}
179 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D741}
180 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D742}
181 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D743}
182 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D744}
183 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D745}
184 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varpi}{1D755}
185 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D746}
186 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varrho}{1D754}
187 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D748}
188 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varsigma}{1D747}
189 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D749}
190 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D74A}
191 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D753}
192 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{varphi}{1D74B}
193 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D74C}
194 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D74D}
195 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D74E}

```

196 }

\* {⟨2: prefix⟩} {⟨3: postfix⟩}

\LWR@mathjax@addgreek@u@bf<sup>it</sup>

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bf}{s m m}{
198 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D734}
224 }
```

\LWR@mathjax@addgreek@u@bf<sup>up</sup> is not needed.

\* {⟨2: prefix⟩} {⟨3: postfix⟩}

\LWR@mathjax@addgreek@u@bf<sup>up</sup>

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6AD}
233 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6AF}
```

```

235 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{iota}{1D6B0}
237 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{kappa}{1D6B1}
238 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{lambda}{1D6B2}
239 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{mu}{1D6B3}
240 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{nu}{1D6B4}
241 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{xi}{1D6B5}
242 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omicron}{1D6B6}
243 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{pi}{1D6B7}
244 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{rho}{1D6B8}
245 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{sigma}{1D6BA}
246 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{tau}{1D6BB}
247 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{phi}{1D6BD}
249 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{chi}{1D6BE}
250 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{psi}{1D6BF}
251 \LWR@mathjax@addletter{\#1}{\#2}{\#3}{omega}{1D6C0}
252 }

```

{*prefix*}

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
254 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{A\}}{1D468}
255 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{B\}}{1D469}
256 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{C\}}{1D46A}
257 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{D\}}{1D46B}
258 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{E\}}{1D46C}
259 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{F\}}{1D46D}
260 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{G\}}{1D46E}
261 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{H\}}{1D46F}
262 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{I\}}{1D470}
263 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{J\}}{1D471}
264 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{K\}}{1D472}
265 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{L\}}{1D473}
266 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{M\}}{1D474}
267 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{N\}}{1D475}
268 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{O\}}{1D476}
269 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{P\}}{1D477}
270 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{Q\}}{1D478}
271 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{R\}}{1D479}
272 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{S\}}{1D47A}
273 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{T\}}{1D47B}
274 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{U\}}{1D47C}
275 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{V\}}{1D47D}
276 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{W\}}{1D47E}
277 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{X\}}{1D47F}
278 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{Y\}}{1D480}
279 \LWR@mathjax@addletter{\BooleanFalse}{\#1}{\{Z\}}{1D481}
280 }

```

{*prefix*}

`\LWR@mathjax@addlatin@l@bfit`

Adds \CustomizeMathjax expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{
282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{z}{1D49B}
308 }

309 \end{warpMathJax}
```

#### File 582 **lwarp-common-mathjax-newpxtxmath.sty**

### § 691 Package **common-mathjax-newpxtxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg Common code used by **newpxmath**, **newtxmath**, and **newtxsf** for MATHJAX.

lwarp-common-mathjax-newpxtxmath

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-newpxtxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathjax{\newcommand{\fAlt}{f}}
7 \CustomizeMathjax{\newcommand{\rhoAlt}{\rho}}
8
```

```
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}
```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```
11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}
13
14 \CustomizeMathJax{\let\smlbrace{}}
15 \CustomizeMathJax{\let\smrbrace{}}
16 \CustomizeMathJax{\newcommand{\P}{\mathrel{\text{\scriptsize{\texttt{\{}}}}}}}
17 \CustomizeMathJax{\newcommand{\nP}{\mathrel{\text{\scriptsize{\texttt{\{}}}}}\not{\text{\scriptsize{\texttt{\{}}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\text{\scriptsize{\texttt{\{}}}}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\text{\scriptsize{\texttt{\{}}}}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\text{\scriptsize{\texttt{\{}}}}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\text{\scriptsize{\texttt{\{}}}}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\text{\scriptsize{\texttt{\{}}}}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\text{\scriptsize{\texttt{\{}}}}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\text{\scriptsize{\texttt{\{}}}}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\text{\scriptsize{\texttt{\{}}}}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\text{\scriptsize{\texttt{\{}}}}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\text{\scriptsize{\texttt{\{}}}}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroupra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroupla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\text{\scriptsize{\texttt{\{}}}}}{\overbrace{\text{\scriptsize{\texttt{\{}}}}}}\limits_{\text{\scriptsize{\texttt{\{}}}}}}
35 \CustomizeMathJax{\let\widearc\overparen}
36 \CustomizeMathJax{\let\wideOarc\overrightarrow}
37 \CustomizeMathJax{\newcommand{\LWRvvstar}[2]{\overrightarrow{\text{\scriptsize{\texttt{\{}}}}}_{\text{\scriptsize{\texttt{\{}}}}}}}
38 \CustomizeMathJax{\newcommand{\vv}{\ifstar{\LWRvvstar}{\overrightarrow{\text{\scriptsize{\texttt{\{}}}}}}}}
39 %
40 \CustomizeMathJax{\let\smallintsl\smallint}
41 \CustomizeMathJax{\newcommand{\smallintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
42 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
43 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
44 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
46 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
47 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
48 \CustomizeMathJax{\newcommand{\smallointctrclockwisesl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
50 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
51 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
52 %
53 \CustomizeMathJax{\let\smallintup\smallint}
54 \CustomizeMathJax{\newcommand{\smallintup}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
55 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
56 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\text{\scriptsize{\texttt{\{}}}}}\limits}}
```

```
60 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{\mathop{\backslash unicode{x2232}}\limits}}
61 \CustomizeMathJax{\newcommand{\smallointctrlclockwiseup}{\mathop{\backslash unicode{x2233}}\limits}}
62 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\backslash unicode{x2A0B}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\backslash unicode{x2A0F}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\backslash unicode{x2A16}}\limits}}
65 %
66 \CustomizeMathJax{\newcommand{\iint}{\mathop{\backslash unicode{x222C}}\limits}}
67 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\backslash unicode{x222D}}\limits}}
68 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\backslash unicode{x2A0C}}\limits}}
69 \CustomizeMathJax{\newcommand{\ooint}{\mathop{\backslash unicode{x222F}}\limits}}
70 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\backslash unicode{x2230}}\limits}}
71 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\backslash unicode{x2232}}\limits}}
72 \CustomizeMathJax{\newcommand{\ointctrlclockwise}{\mathop{\backslash unicode{x2233}}\limits}}
73 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\backslash unicode{x2A0B}}\limits}}
74 \CustomizeMathJax{\newcommand{\fint}{\mathop{\backslash unicode{x2A0F}}\limits}}
75 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\backslash unicode{x2A16}}\limits}}
76 %
77 \CustomizeMathJax{\let\intsl\int}
78 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\backslash unicode{x222C}}\limits}}
79 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\backslash unicode{x222D}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\backslash unicode{x2A0C}}\limits}}
81 \CustomizeMathJax{\let\ointsl\oint}
82 \CustomizeMathJax{\newcommand{\ointsl}{\mathop{\backslash unicode{x222F}}\limits}}
83 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\backslash unicode{x2230}}\limits}}
84 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\backslash unicode{x2232}}\limits}}
85 \CustomizeMathJax{\newcommand{\ointctrlclockwisesl}{\mathop{\backslash unicode{x2233}}\limits}}
86 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\backslash unicode{x2A0B}}\limits}}
87 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\backslash unicode{x2A0F}}\limits}}
88 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\backslash unicode{x2A16}}\limits}}
89 %
90 \CustomizeMathJax{\let\intup\int}
91 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\backslash unicode{x222C}}\limits}}
92 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\backslash unicode{x222D}}\limits}}
93 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\backslash unicode{x2A0C}}\limits}}
94 \CustomizeMathJax{\let\ointup\oint}
95 \CustomizeMathJax{\newcommand{\ointup}{\mathop{\backslash unicode{x222F}}\limits}}
96 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\backslash unicode{x2230}}\limits}}
97 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\backslash unicode{x2232}}\limits}}
98 \CustomizeMathJax{\newcommand{\ointctrlclockwiseup}{\mathop{\backslash unicode{x2233}}\limits}}
99 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\backslash unicode{x2A0B}}\limits}}
100 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\backslash unicode{x2A0F}}\limits}}
101 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\backslash unicode{x2A16}}\limits}}
102 %
103 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\backslash unicode{x2A03}}\limits}}
104 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\backslash unicode{x2A04}}\limits}}
105 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\backslash unicode{x2A05}}\limits}}
106 %
107 %
108 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\backslash unicode{x2A09}}\limits}}
109 \CustomizeMathJax{\let\varprod\bigtimes}
110 %
111 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\backslash unicode{x021A4}}\limits}}
```

```
112 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
113 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicodex{021A4}}}}
114 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicodex{027FB}}}}
115 %
116 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicodex{02907}}}}
117 \CustomizeMathJax{\let\Mapstochar\Mapsto}
118 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicodex{027FE}}}}
119 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicodex{02906}}}}
120 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
121 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicodex{02906}}}}
122 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicodex{027FD}}}}
123 %

124 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicodex{025CB}}}}
125 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicodex{025CF}}}}
126 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicodex{02AFD}}}}
127 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicodex{0244A}}}}
128 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\LWRoverlaysymbols{-}\unicodex{02AFD}}}}
129 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\LWRoverlaysymbols{-}\unicodex{0244A}}}}
130 %

131 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicodex{02254}}}}
132 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicodex{02255}}}}
133 %
134 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicodex{022AB}}}}

135 %
136 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicodex{02AB3}}}}
137 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicodex{02AB4}}}}
138 %
139
140 \CustomizeMathJax{\newcommand{\npresim}{\mathrel{\LWRoverlaysymbols{/}\unicodex{0227E}}}}
141 \CustomizeMathJax{\newcommand{\nsuccsim}{\mathrel{\LWRoverlaysymbols{/}\unicodex{0227F}}}}
142 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\unicodex{02274}}}}
143 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicodex{02275}}}}
144 %

145 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicodex{02284}}}}
146 \CustomizeMathJax{\newcommand{\nupset}{\mathrel{\unicodex{02285}}}}
147 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicodex{0220C}}}}
148 \CustomizeMathJax{\let\notowns\notni}
149 %
150 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\LWRoverlaysymbols{/}\unicodex{02A85}}}}
151 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\LWRoverlaysymbols{/}\unicodex{02A86}}}}
152 %
153 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\LWRoverlaysymbols{/}\unicodex{0227C}}}}
154 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\LWRoverlaysymbols{/}\unicodex{0227D}}}}
155 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicodex{02279}}}}
156 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicodex{02278}}}}
157 \CustomizeMathJax{\newcommand{\nbumpeq}{\mathrel{\LWRoverlaysymbols{/}\unicodex{0224F}}}}
158 \CustomizeMathJax{\newcommand{\nBumpeq}{\mathrel{\LWRoverlaysymbols{/}\unicodex{0224E}}}}
159 %
160 \CustomizeMathJax{\newcommand{\nbacksim}{\mathrel{\LWRoverlaysymbols{/}\unicodex{0223D}}}}
```

```

161 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022CD}}}}}
162 \CustomizeMathJax{\newcommand{\nasmp}{\mathrel{\unicode{x226D}}}}
163 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
164 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
165 %
166 \CustomizeMathJax{\newcommand{\nll}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0226A}}}}}
167 \CustomizeMathJax{\newcommand{\ngg}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0226B}}}}}
168 \CustomizeMathJax{\newcommand{\nthickapprox}{%
169 \mathrel{\LWRoverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}}
170 }
171 \CustomizeMathJax{\newcommand{\napproxeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224A}}}}}
172 \CustomizeMathJax{\newcommand{\nprecapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB7}}}}}
173 \CustomizeMathJax{\newcommand{\nsuccapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB8}}}}}
174 \CustomizeMathJax{\newcommand{\npreceqq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB3}}}}}
175 \CustomizeMathJax{\newcommand{\nsucceqq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02AB4}}}}}
176 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
177 %
178 \CustomizeMathJax{\newcommand{\nSubset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022D0}}}}}
179 \CustomizeMathJax{\newcommand{\nSupset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022D1}}}}}
180 \CustomizeMathJax{\newcommand{\nsqlsubseteq}{\mathrel{\unicode{x022E2}}}}
181 \CustomizeMathJax{\newcommand{\nsqlsupseteq}{\mathrel{\unicode{x022E3}}}}
182 %
183 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
184 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
185 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}
186 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
187 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
188 %
189 \CustomizeMathJax{\newcommand{\lvec}[1]{\mathord{\overset{\unicode{x02190}}{#1}}}}
190 \CustomizeMathJax{\newcommand{\lrvec}[1]{\mathord{\overset{\unicode{x2194}}{#1}}}}
191 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{\mathord{\overset{\unicode{x021C0}}{#1}}}}
192 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{\mathord{\overset{\unicode{x021BC}}{#1}}}}
193 \CustomizeMathJax{\newcommand{\rharpoonacc}[1]{\mathord{\overset{\unicode{x0294E}}{#1}}}}
194 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{#1}}}}
195 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{#1}}}}
196 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{#1}}}}}
197 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{#1}}}}
198 \CustomizeMathJax{\newcommand{\tildetilde}[1]{\mathord{\overset{\approx}{#1}}}}
199 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{#1}}}}}
200 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{#1}}}}}
201 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{#1}}}}}
202 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\bar{\hat{#1}}}}}}
203 %
204 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
205 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\boldsymbol{\cdot\cdot}}}}
206 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
207 \CustomizeMathJax{\newcommand{\bulletSS}{\boldsymbol{\bullet\bullet}}}
208 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\boldsymbol{\bullet}}}}
209 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\boldsymbol{\bullet}}}}
210 \CustomizeMathJax{\newcommand{\primeS}{\boldsymbol{\prime}}}
211 %
212 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\boldsymbol{\cdot}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```
213 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
214 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
215 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
216 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
217 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

218 \CustomizeMathJax{\newcommand{\LJoin}{\mathrel{\unicode{x22C9}}}}
219 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}
220 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x2A1D}}}}
221
222 \CustomizeMathJax{\newcommand{\lrtimes}{\mathrel{\unicode{x2A1D}}}}
223 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
224 \CustomizeMathJax{\newcommand{\nplus}{\mathrel{\LWRoverlaysymbols{+}{\unicode{x02229}}}}}
225 \CustomizeMathJax{\newcommand{\nsqsubset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0228F}}}}}
226 \CustomizeMathJax{\newcommand{\nsqsupset}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02290}}}}}
227 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
228 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
229 \CustomizeMathJax{\newcommand{\twoheadrightarrow}{\mathrel{\unicode{x02900}}}}
230 \CustomizeMathJax{\newcommand{\twoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
231 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
232 \CustomizeMathJax{\newcommand{\boxbslash}{\mathbin{\unicode{x29C5}}}}
233 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
234 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
235
236 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
237 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
238 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
239 \CustomizeMathJax{\newcommand{\varsparadesuit}{\mathord{\unicode{x02664}}}}
240
241 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
242 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
243 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
244 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
245 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
246 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
247
248 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
249
250 \CustomizeMathJax{\newcommand{\sqcupplus}{\mathbin{\LWRoverlaysymbols{+}{\unicode{x02294}}}}}
251 \CustomizeMathJax{\newcommand{\sqcapplus}{\mathbin{\LWRoverlaysymbols{+}{\unicode{x02293}}}}}
252
253 \CustomizeMathJax{\newcommand{\dbl}{\mathopen{\unicode{x027E6}}}}
254 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
255
256 \CustomizeMathJax{\newcommand{\varg}{\{g\}}}
257 \CustomizeMathJax{\newcommand{\vary}{\{y\}}}
258 \CustomizeMathJax{\newcommand{\varv}{\{v\}}}
259 \CustomizeMathJax{\newcommand{\varw}{\{w\}}}
260
261 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
262 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
263 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
264 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
265
266 \CustomizeMathJax{\newcommand{\uppartial}{\mathord{\unicode{x02202}}}}% not upright
```

```

267
268 \CustomizeMathJax{\let\vartmathbb\mathbb}
269 \CustomizeMathJax{\let\vmathbb\mathbb}
270 \CustomizeMathJax{\let\vvmathbb\mathbb}
271
272 \CustomizeMathJax{\let\smallprod\prod}
273 \CustomizeMathJax{\let\smallsum\sum}
274 \CustomizeMathJax{\let\smallcoprod\coprod}
275
276 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\text{\scriptsize\texttt{x25FD}}}}}
277 \CustomizeMathJax{\let\textsquare\openbox}

278 \CustomizeMathJax{\let\varemptyset\emptyset}
279 %
280 % for newpxmath:
281 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\text{\scriptsize\texttt{x000A3}}}}}
282 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\text{\scriptsize\texttt{x000A2}}}}}
283
284 \end{warpMathJax}

```

File 583 **l warp-common-mathjax-nonunicode.sty**

§ 692 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

Pkg Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATHJAX.  
l warp-common-mathjax-nonunicode These are symbols not found in UNICODE.

Factored from l warp-common-mathjax-newpxmath.

for HTML output: 1 \ProvidesPackage{l warp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\text{\scriptsize\texttt{x021A6}}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\text{\scriptsize\texttt{x021A6}}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\text{\scriptsize\texttt{x021A4}}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\text{\scriptsize\texttt{x021A4}}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}%
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}%
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\text{\scriptsize\texttt{x02907}}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\text{\scriptsize\texttt{x027FE}}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\text{\scriptsize\texttt{x02906}}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}

```

```
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\text{\scriptsize\texttt{\\unicode{x027FD}}}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{\mathrel{\text{\scriptsize\texttt{\\unicode{x025A1}\\!\\unicode{x02192}}}}}
24 \CustomizeMathJax{\newcommand{\boxleft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02190}\\!\\unicode{x025A1}}}}}
25 \CustomizeMathJax{\newcommand{\boxdotright}{\mathrel{\text{\scriptsize\texttt{\\unicode{x022A1}\\!\\unicode{x02192}}}}}
26 \CustomizeMathJax{\newcommand{\boxdotleft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02190}\\!\\unicode{x022A1}}}}}
27
28 \CustomizeMathJax{\newcommand{\Diamondright}{\mathrel{\text{\scriptsize\texttt{\\unicode{x025C7}\\!\\unicode{x02192}}}}}
29 \CustomizeMathJax{\newcommand{\Diamondleft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02190}\\!\\unicode{x025C7}}}}}
30 \CustomizeMathJax{\newcommand{\Diamonddotright}{\mathrel{\text{\scriptsize\texttt{\\unicode{x027D0}\\!\\unicode{x02192}}}}}
31 \CustomizeMathJax{\newcommand{\Diamonddotleft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02190}\\!\\unicode{x027D0}}}}}
32
33 \CustomizeMathJax{\newcommand{\boxRight}{\mathrel{\text{\scriptsize\texttt{\\unicode{x025A1}\\!\\unicode{x021D2}}}}}
34 \CustomizeMathJax{\newcommand{\boxLeft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x021D0}\\!\\unicode{x025A1}}}}}
35 \CustomizeMathJax{\newcommand{\boxdotRight}{\mathrel{\text{\scriptsize\texttt{\\unicode{x022A1}\\!\\unicode{x021D2}}}}}
36 \CustomizeMathJax{\newcommand{\boxdotLeft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x021D0}\\!\\unicode{x022A1}}}}}
37
38 \CustomizeMathJax{\newcommand{\DiamondRight}{\mathrel{\text{\scriptsize\texttt{\\unicode{x025C7}\\!\\unicode{x021D2}}}}}
39 \CustomizeMathJax{\newcommand{\DiamondLeft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x021D0}\\!\\unicode{x025C7}}}}}
40 \CustomizeMathJax{\newcommand{\DiamonddotRight}{\mathrel{\text{\scriptsize\texttt{\\unicode{x027D0}\\!\\unicode{x021D2}}}}}
41 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x021D0}\\!\\unicode{x027D0}}}}}
42 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\text{\scriptsize\texttt{\\unicode{x027D0}}}}}
43
44 \CustomizeMathJax{\newcommand{\circleright}{\mathrel{\text{\scriptsize\texttt{\\unicode{x025CB}\\!\\unicode{x02192}}}}}
45 \CustomizeMathJax{\newcommand{\circleleft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02190}\\!\\unicode{x025CB}}}}}
46 \CustomizeMathJax{\newcommand{\circledotright}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02299}\\!\\unicode{x02192}}}}}
47 \CustomizeMathJax{\newcommand{\circledotleft}{\mathrel{\text{\scriptsize\texttt{\\unicode{x02190}\\!\\unicode{x02299}}}}}
48 \CustomizeMathJax{\let\circledotright\circledotright}
49 \CustomizeMathJax{\let\circledotleft\circledotleft}
50
51 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\text{\scriptsize\texttt{\\unicode{x027DC}}}}}}
52 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\text{\scriptsize\texttt{\\unicode{x029DF}}}}}}
53 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{\text{\scriptsize\texttt{-\\!\\bullet}}}}}
54 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\text{\scriptsize\texttt{\\bullet\\!-\\!\\bullet}}}}}
55 \CustomizeMathJax{\newcommand{\multimapdotboth}{\mathrel{\text{\scriptsize\texttt{\\bullet\\!\\!-\\!\\bullet}}}}}
56 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\text{\scriptsize\texttt{\\unicode{x022B6}}}}}}
57 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\text{\scriptsize\texttt{\\unicode{x22B7}}}}}}
58
59 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
60 \mathrel{\overset{\text{\scriptsize\texttt{\\unicode{x025CB}}}}{\underset{\text{\scriptsize\texttt{\\unicode{x025CB}}}}{|}}}}%
61 }%
62 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
63 \mathrel{\overset{\text{\scriptsize\texttt{\\unicode{x025CF}}}}{\underset{\text{\scriptsize\texttt{\\unicode{x025CF}}}}{|}}}}%
64 }%
65 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{%
66 \mathrel{\overset{\text{\scriptsize\texttt{\\unicode{x025CF}}}}{\underset{\text{\scriptsize\texttt{\\unicode{x025CB}}}}{|}}}}%
67 }%
68 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{%
69 \mathrel{\overset{\text{\scriptsize\texttt{\\unicode{x025CB}}}}{\underset{\text{\scriptsize\texttt{\\unicode{x025CF}}}}{|}}}}%
70 }%
71
72 \CustomizeMathJax{\newcommand{\bignplus}{%
73 \mathop{\text{\LWRoverlaysymbols{\scriptsize\texttt{\\unicode{xFF0B}}}}{\scriptsize\texttt{\\unicode{x22C2}}}}}}%
```



```
129
130 \CustomizeMathJax{\newcommand{\dashleftrightarrow}{%
131 \mathrel{\!unicode{x021E0}\!}\!unicode{x021E2}}%
132 }%
133 \CustomizeMathJax{\let\leftrightharpoonup\dashleftrightarrow}%
134 for kpfonts-otf
135 \end{warpMathJax}
```

---

File 584 **l warp-common-mathjax-overlaysymbols.sty**

§ 693      Package **common-mathjax-overlaysymbols**

Pkg Common code used by a number of packages to overlay two symbols for MATHJAX.

l warp-common-mathjax-overlaysymbols

for HTML output: 1 \ProvidesPackage{l warp-common-mathjax-overlaysymbols}[2020/08/17]

\LWRoverlaysymbols {*symbol*} {*symbol*}

Overlays one symbol over another.

```
2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWRoverlaysymbols}[2]{%
5 \mathord{%
6 \smash{%
7 \mathop{\#2\strut}%
8 \limits^{\smash{\lower3ex{\#1}}}%
9 }%
10 \strut%
11 }%
12 }%
13
14 \end{warpMathJax}
```

# Change History

§ 694 Chg Hist

---

For the most recent changes, see page 1391.

|          |                                                                                   |      |                                                                        |                          |   |
|----------|-----------------------------------------------------------------------------------|------|------------------------------------------------------------------------|--------------------------|---|
| v0.0.895 | General: maybemath: Added. ....                                                   | 987  | Docs: Troubleshooting<br>cross-references. ....                        | 203                      |   |
| v0.10    | General: 2016/03/08 Initial version                                               | 1    | Test Suite: Assigned cleveref name<br>for Test Float. ....             | 1                        |   |
| v0.11    | General: 2016/03/11 ....                                                          | 1    | Test Suite: Floatrow. ....                                             | 1                        |   |
|          | Added section: Operating-System<br>portability. ....                              | 238  |                                                                        |                          |   |
|          | Added section: Selecting the<br>operating system. ....                            | 122  |                                                                        |                          |   |
|          | Test Suite: MS-WINDOWS in<br>README.txt ....                                      | 1    |                                                                        |                          |   |
|          | Test Suite: images and index in<br>README.txt ....                                | 1    |                                                                        |                          |   |
| v0.12    | \LWR@newhtmlfile: Bugfix: toc with<br>numbered files. ....                        | 409  | General: 2016/04/06 ....                                               | 1                        |   |
|          | General: 2016/03/14 ....                                                          | 1    | Added. ....                                                            | 849                      |   |
|          | Global: Uses \p@(type) in float<br>captions. ....                                 | 1    | Ampersand (&): Fixed handling<br>when passed as an argument. ....      | 467                      |   |
|          | Test Suite: Sub-figures ....                                                      | 1    | Docs: Added warning icons for<br>items needing special attention. .... | 212                      |   |
| v0.13    | \CaptionSeparator: Fix for newer<br>babel package. ....                           | 540  | Docs: Clarify print/HTML output. ....                                  | 123                      |   |
|          | \LWR@LwarpStart: \up and \fup ....                                                | 429  | Docs: Moved the supported<br>features table to the introduction. ....  | 70                       |   |
|          | General: 2016/03/24 ....                                                          | 1    | Files: lwarp_formal.css added. ....                                    | 1                        |   |
|          | Fix dollar-redefined bug for newer<br>package. ....                               | 1221 | Fix: steps counter ....                                                | 849                      |   |
|          | Removed package: subfig ....                                                      | 1    | Fixed & handling. ....                                                 | 847                      |   |
|          | Test Suite: Ordinals, Subcaption ....                                             | 1    | Test Suite: test_suite_formal.css file<br>added. ....                  | 1                        |   |
| v0.14    | \LWR@htmlsectionfilename: Fix:<br>Links to home page. ....                        | 359  | v0.16                                                                  | General: 2016/04/11 .... | 1 |
|          | General: 2016/03/31 ....                                                          | 1    | \titlingpage: Improved<br>print-output spacing. ....                   | 438                      |   |
|          | floatrow: Added. ....                                                             | 845  | xfrac: Adjusted for the use of any<br>font. ....                       | 1287                     |   |
|          | Docs: Commands for a successful<br>HTML conversion. ....                          | 127  | Added XeLaTeX, LuaLaTeX<br>support. ....                               | 213                      |   |
|          | Docs: Commands into a warpprint<br>environment. ....                              | 124  | Docs: Font and UTF-8 support. ....                                     | 104                      |   |
|          | Docs: Newclude limitations. ....                                                  | 181  | Docs: Moved location of<br>\usepackage{lwarp}. ....                    | 108                      |   |
|          | Docs: Table: Cross-referencing data<br>structures. ....                           | 523  | Docs: Text not converting. ....                                        | 203                      |   |
|          | Docs: Table: Float data structures. ....                                          | 536  | Lwarp no longer selects fonts. ....                                    | 249                      |   |
|          | Docs: Trademarks section. ....                                                    | 209  | Removed package: suffix ....                                           | 1                        |   |
| v0.17    | \LWR@htmlsectionfilename: Fix:<br>Links when entire doc is one<br>HTML page. .... | 359  | Test Suite: Improved titlingpage. ....                                 | 438                      |   |
|          | General: 2016/04/14 ....                                                          | 1    | Test Suite: Lwarp no longer selects<br>fonts. ....                     | 1                        |   |
|          | mdframed: Added. ....                                                             | 987  | Test Suite: Supports XeLaTeX,<br>LuaLaTeX. ....                        | 1                        |   |

|                                            |          |
|--------------------------------------------|----------|
| Test Suite: Fix: Print-version             |          |
| front-matter page numbers. . . . .         | 1        |
| Test Suite: Mdframed . . . . .             | 1        |
| v0.18                                      |          |
| \LWR@myshorttoc: Reorganize                |          |
| \HomeHTMLFilename logic. . . . .           | 545      |
| \LWR@newhtmlfile: sideroc after title,     |          |
| improving responsive design. . . . .       | 408      |
| \LWR@requesttoc: Reorganize                |          |
| \HomeHTMLFilename logic. . . . .           | 431      |
| \LWR@subhyperref: Improved HTML            |          |
| output linebreaks. . . . .                 | 533      |
| \LWR@subhyperrefclass: Improved            |          |
| HTML output linebreaks. . . . .            | 533      |
| \LWR@subinlineimage: Suppress extra        |          |
| space. . . . .                             | 534      |
| \hspace: \hspace supported. . . . .        | 642      |
| General: 2016/05/19 . . . . .              | 1        |
| graphics: Add: svg file extension. . . . . | 884      |
| graphics: Fix: \linewidth,                 |          |
| \textwidth, \textheight inside a           |          |
| minipage. . . . .                          | 884      |
| graphics: Improved HTML output             |          |
| linebreaks. . . . .                        | 884      |
| graphics: em, ex, %, px dimensions         |          |
| preserved. . . . .                         | 884      |
| File: l warp.css: Improved toc             |          |
| outline display. . . . .                   | 1        |
| Files: l warp.css and                      |          |
| l warp_formal.css: Improved                |          |
| responsive design. . . . .                 | 1        |
| Microtype disabled during HTML             |          |
| generation . . . . .                       | 250      |
| PDF Unicode input characters. . . . .      | 231      |
| Test Suite: Verse package . . . . .        | 1        |
| lateximage: pdfcrop: --hires added.        | 599      |
| Reorganize \HomeHTMLFilename               |          |
| logic. . . . .                             | 599      |
| Suppress extra space. . . . .              | 599      |
| verse: Supports verse, memoir              |          |
| packages. . . . .                          | 1263     |
| minipage: Fix: \linewidth,                 |          |
| \textwidth, \textheight inside a           |          |
| minipage. . . . .                          | 620      |
| v0.19                                      |          |
| \HTMLFilename: Docs: Escape                |          |
| filename underscores. . . . .              | 358      |
| \HomeHTMLFilename: Docs: Escape            |          |
| filename underscores. . . . .              | 358      |
| \LWR@LwarpStart: Enabled \\ equal to       |          |
| \\newline. . . . .                         | 427      |
| \LWR@dequation: MATHJAX support.           | 586      |
| \LWR@doubledollar: MATHJAX                 |          |
| support. . . . .                           | 579      |
| \LWR@filestart: l warp_mathjax.txt         |          |
| loaded. . . . .                            | 424      |
| \LWR@minipagestartpars: Suppresses         |          |
| paragraph tags between                     |          |
| minipages. . . . .                         | 641      |
| \LWR@subsingle dollar: MATHJAX             |          |
| support. . . . .                           | 577      |
| \LateximageFontSizeName: Add:              |          |
| User-adjustable math/latexitimage          |          |
| font size. . . . .                         | 596      |
| \hspace: Fix: \hspace length               |          |
| computations. . . . .                      | 642      |
| \minipagewidth: Added: No                  |          |
| width tag for the next minipage in         |          |
| HTML. . . . .                              | 619      |
| \warpHTMLonly: Added. . . . .              | 247      |
| \warpprintonly: Replaces                   |          |
| \rowprintedonly. . . . .                   | 247      |
| \xfracHTMLfontsize: Added. . . . .         | 1287     |
| General: 2016/06/08 . . . . .              | 1        |
| css for table note item. . . . .           | 1218     |
| MATHJAX support added. . . . .             | 583, 591 |
| multirow: Added optional args. . . . .     | 1020     |
| xcolor: Supports colored \rule.            | 1277     |
| Adapts to tikz version. . . . .            | 1221     |
| Avoids MATHJAX. . . . .                    | 570      |
| cleveref: Loaded \AtEndPreamble.           | 616      |
| Docs: Math options. . . . .                | 108      |
| Docs: Table: Cross-referencing data        |          |
| structures, updated. . . . .               | 523      |
| File: l warp.css: tnoteitemheader          |          |
| added. . . . .                             | 1        |
| File: l warp_mathjax.txt added. . . . .    | 1        |
| Introduction: MATHJAX support              |          |
| mentioned. . . . .                         | 67       |
| Options: mathsvg and mathjax . . . . .     | 241      |
| titlesp: null \pagestyle and               |          |
| \thispagestyle for HTML. . . . .           | 1222     |
| v0.20                                      |          |
| \BlockClassSingle: Renamed from            |          |
| "LWR@htmldivclassname". . . . .            | 375      |
| \HTMLDescription: Added                    |          |
| \NewHTMLdescription. (Renamed              |          |
| in v0.30.) . . . . .                       | 387      |
| \HTMLFilename: No longer escape            |          |
| underscores. . . . .                       | 358      |
| \HomeHTMLFilename: No longer               |          |
| escape underscores. . . . .                | 358      |
| \InlineClass: Renamed from                 |          |
| "inlineclass". . . . .                     | 375      |
| \LWR@closeparagraph: \unskip extra         |          |
| spaces. . . . .                            | 380      |
| No break tags in the start/end of a        |          |
| tabular. . . . .                           | 380      |
| \LWR@endofline: Fix: \\ . . . . .          | 641      |

|                                                                                                  |      |
|--------------------------------------------------------------------------------------------------|------|
| \LWR@filestart: Adds meta description.                                                           | 424  |
| \LWR@htmldivclass: Added optional style.                                                         | 374  |
| \LWR@htmlelementclass: Added optional style.                                                     | 373  |
| \LWR@htmlsectionfilename: HTMLfilename: removed additional trailing ',', and may be empty.       | 359  |
| Sections called "Index" or "index" have an underscore prepended to their filenames if no prefix. | 359  |
| \LWR@hyperindexrefsubtwo: Print mode provided in case hyperref not used.                         | 560  |
| \LWR@longtabledatacaptiontag: Fix: Pars in captions.                                             | 506  |
| \LWR@section: Combined higher-level sections together into files.                                | 415  |
| \LWR@setOSWindows: Auto-detects operating system.                                                | 240  |
| \LWR@subhtmlelementclass: Factored code.                                                         | 373  |
| \SetHTMLFileNumber: Add: Control file numbers.                                                   | 358  |
| \cpagerefFor: User-redefinable word for page references.                                         | 773  |
| \dotfill: Inserts an ellipsis.                                                                   | 641  |
| \hfill: Inserts a \qquad.                                                                        | 640  |
| \hrulefill: Inserts a short rule.                                                                | 640  |
| \hspace: Add: Supports HTML thin breakable space.                                                | 642  |
| \pageref: Added.                                                                                 | 531  |
| \tracinglwarp: Added.                                                                            | 264  |
| General: 2017/02/09                                                                              | 1    |
| afterpage: Added.                                                                                | 671  |
| alltt: Added.                                                                                    | 676  |
| bookmark: Added.                                                                                 | 719  |
| caption and subcaption supported.                                                                | 1    |
| cleveref and referencing patches:                                                                |      |
| Applied \AfterEndPreamble.                                                                       | 772  |
| draftwatermark: Added.                                                                           | 790  |
| eso-pic: Added.                                                                                  | 813  |
| everypage: Added.                                                                                | 817  |
| extramarks: Added.                                                                               | 818  |
| fancyhdr: Added.                                                                                 | 824  |
| float: Improved float caption type handling.                                                     | 842  |
| graphics: Fix: Expands filename.                                                                 | 884  |
| graphics: Fix: \linewidth in a floatrow.                                                         | 884  |
| hyperref: Additional user macros.                                                                | 896  |
| keyfloat: Added.                                                                                 | 923  |
| letterspace: User-interface emulated.                                                            | 936  |
| listings: Added.                                                                                 | 947  |
| ltcaption: Added.                                                                                | 959  |
| lwarp-newproject: Added.                                                                         | 277  |
| microtype: User-interface emulated.                                                              | 1004 |
| needspace: Added.                                                                                | 1032 |
| nowidow: Added.                                                                                  | 1048 |
| placeins: Added.                                                                                 | 1086 |
| ragged2e: Added.                                                                                 | 1095 |
| setspace: Improved support.                                                                      | 1121 |
| sympytex: Added.                                                                                 | 1190 |
| textpos: Added.                                                                                  | 1210 |
| titlesp: Added.                                                                                  | 1222 |
| titlesec: Added.                                                                                 | 1225 |
| titletoc: Added.                                                                                 | 1227 |
| titling: Improved compatibility.                                                                 | 1229 |
| tocloft: Added.                                                                                  | 1237 |
| wallpaper: Added.                                                                                | 1269 |
| wrapfig: Added.                                                                                  | 1272 |
| xetexko: Added.                                                                                  | 1285 |
| Added @, <, > columns.                                                                           | 460  |
| Added single-expansion data arrays.                                                              | 355  |
| Code factored into independent lwarp_html files.                                                 | 659  |
| Docs: Examples for generating HTML file names.                                                   | 120  |
| Docs: Improved index.                                                                            | 1    |
| Enhanced titling support.                                                                        | 436  |
| File: lwarp.css: Minor fixes for validation.                                                     | 1    |
| File: lwarpmk used to compile print, HTML, indexes, and lateximages.                             | 1    |
| Fix: \linewidth in a floatrow.                                                                   | 847  |
| Moved sidebar and example code to test suite.                                                    | 1    |
| Page geometry set to 6in wide with large margins.                                                | 250  |
| Parallel versions of aux files for print/HTML.                                                   | 1    |
| Removed reliance on make, grep, gawk.                                                            | 1    |
| Tabular: \unskip extra spaces.                                                                   | 460  |
| Test Suite: HTML meta descriptions.                                                              | 1    |
| verbatim: Added.                                                                                 | 448  |
| BlockClass: Added optional style.                                                                | 375  |
| Renamed from "blockclass".                                                                       | 375  |
| LWR@nestspan: Fix: Minipages inside a span.                                                      | 370  |
| \LWR@LwarpStart: Changed lateximages to a .txt file.                                             | 427  |

v0.21

|                                                                                                  |      |                                                                                     |                                                                            |     |
|--------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----|
| \LWR@filestart: Skip title if not given. . . . .                                                 | 424  | v0.24                                                                               | \LWR@htmlfileref: Fix: Index links while \tracingl warp. . . . .           | 525 |
| \LWR@newhtmlfile: Skip title if not given. . . . .                                               | 408  | \hspace: Add: \hspace \fill converts to 2em . . . . .                               | 642                                                                        |     |
| \marginpar: Fixed source listing. . . . .                                                        | 394  | \hypertocfloat: List of floats responds to lofdepth, lotdepth.                      | 551                                                                        |     |
| \marginparBlock: Fixed source listing. . . . .                                                   | 394  | General: 2017/03/15 . . . . .                                                       | 1                                                                          |     |
| General: 2017/02/23 . . . . .                                                                    | 1    | floatrow: Support for subfig. . . . .                                               | 845                                                                        |     |
| fontenc: Added. . . . .                                                                          | 854  | subfig: Added. . . . .                                                              | 1181                                                                       |     |
| <i>lwarpmk</i> : Fix: <i>lwarpmk again</i> for WINDOWS. . . . .                                  | 332  | tikz: For tikz v3.0.0 or later, auto-loads tikz babel library if necessary. . . . . | 1221                                                                       |     |
| <i>lwarpmk</i> : Fix: <i>lwarpmk limages</i> for WINDOWS. . . . .                                | 332  | Docs: Filename underscore. . . . .                                                  | 108, 130                                                                   |     |
| <i>lwarpmk</i> : Fix: <i>lwarpmk</i> uses lateximages text file instead of shell script. . . . . | 332  | Fix for inline images. . . . .                                                      | 1221                                                                       |     |
| Add: Errors for misplaced packages. . . . .                                                      | 213  | No longer preloads subcaption; conflicted with subfig. . . . .                      | 254                                                                        |     |
| Docs: Added internet class. . . . .                                                              | 77   | picture: Fix for inline images. . . . .                                             | 616                                                                        |     |
| Docs: Added TeX2page, GladTeX. . . . .                                                           | 77   | v0.25                                                                               | \LWR@loadnever: Added the ability to prevent conflicting packages. . . . . | 215 |
| Docs: Installing on WINDOWS. . . . .                                                             | 83   | \addcontentsline: Handles theorems. . . . .                                         | 544                                                                        |     |
| File: <i>l warp_tutorial.txt</i> added. . . . .                                                  | 87   | General: 2016/03/22 . . . . .                                                       | 1                                                                          |     |
| v0.22                                                                                            |      | amsthm: Added. . . . .                                                              | 681                                                                        |     |
| \LWR@parsebangcolumn: Added tabular ! column. . . . .                                            | 472  | ellipsis: Added. . . . .                                                            | 796                                                                        |     |
| \LWR@parseablecols: Unknown table column types become l. Added tabular D, !, X columns. . . . .  | 482  | emptypage: Added. . . . .                                                           | 797                                                                        |     |
| \LWR@printmccoldata: Added tabular D, !, and X columns. . . . .                                  | 501  | framed: Added. . . . .                                                              | 862                                                                        |     |
| General: 2017/03/02 . . . . .                                                                    | 1    | lips: Added. . . . .                                                                | 946                                                                        |     |
| abstract: Added. . . . .                                                                         | 661  | mdframed: Help avoid hyphenation. . . . .                                           | 989                                                                        |     |
| changepage: Added. . . . .                                                                       | 736  | ntheorem: Added. . . . .                                                            | 1049                                                                       |     |
| dcolumn: Added. . . . .                                                                          | 785  | showidx: Added. . . . .                                                             | 1123                                                                       |     |
| ftnright: Added. . . . .                                                                         | 865  | theorem: Added. . . . .                                                             | 1211                                                                       |     |
| geometry: Nullified commands. . . . .                                                            | 870  | Basic LATEX theorems: improved CSS. . . . .                                         | 449                                                                        |     |
| layout: Added. . . . .                                                                           | 933  | Docs: Adds credits for patched code. . . . .                                        | 1                                                                          |     |
| lscape: Added. . . . .                                                                           | 958  | Docs: Testing l warp. . . . .                                                       | 199                                                                        |     |
| mcaption: Added. . . . .                                                                         | 987  | Fix: Allows XELATEX and LuaLATEX to preload graphics and graphicx. . . . .          | 220                                                                        |     |
| nameref: Added. . . . .                                                                          | 1028 | v0.26                                                                               | General: 2017/03/31 . . . . .                                              | 1   |
| nextpage: Added. . . . .                                                                         | 1035 | \l warp.css: Improved responsive marginpar and marginblock. . . . .                 | 285                                                                        |     |
| parskip: Added. . . . .                                                                          | 1070 | cutwin: Added. . . . .                                                              | 783                                                                        |     |
| showkeys: Added. . . . .                                                                         | 1123 | endnotes: Added. . . . .                                                            | 799                                                                        |     |
| sidecap: Added. . . . .                                                                          | 1125 | floatflt: Added. . . . .                                                            | 843                                                                        |     |
| tabularx: Added. . . . .                                                                         | 1192 | footmisc: Added. . . . .                                                            | 855                                                                        |     |
| variorref: Supported. . . . .                                                                    | 136  | footnotehyper: Added. . . . .                                                       | 858                                                                        |     |
| verse: Added. . . . .                                                                            | 1263 | footnote: Added. . . . .                                                            | 856                                                                        |     |
| v0.23                                                                                            |      | marginfix: Added. . . . .                                                           | 972                                                                        |     |
| \LWR@parseablecols: Fix for vert bar column type. . . . .                                        | 482  | marginnote: Added. . . . .                                                          | 972                                                                        |     |
| \LWR@printmccoldata: Fix for vert bar column type. . . . .                                       | 501  | mparhack: Added. . . . .                                                            | 1014                                                                       |     |
| General: 2017/03/02 . . . . .                                                                    | 1    | pagenote: Supported as-is. . . . .                                                  | 1064                                                                       |     |

|                                                                                         |        |                                                                                                                                         |      |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
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| sidenotes: Added. . . . .                                                               | 1126   | graphics: Added. . . . .                                                                                                                | 876  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| Docs: Improved MiKTEX install<br>instructions. . . . .                                  | 82, 84 | tabularx: Fix for optional pos. . .                                                                                                     | 1192 |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| Dollar span avoided in a<br>latextimage. . . . .                                        | 570    | tabulary: Added. . . . .                                                                                                                | 1192 |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| Footnotes now are LATEX boxes<br>instead of pagenotes. . . . .                          | 388    | <i>lwarpmk</i> : Add: <b>printglossary</b> and<br><b>htmlglossary</b> commands. . . . .                                                 | 332  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| latextimage: Labels track page<br>numbers of latextimages. . . . .                      | 599    | Added boolean FormatEPUB. . . . .                                                                                                       | 270  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| Print mode now uses a minipage of<br>\linewidth. . . . .                                | 599    | Added boolean FormatWP. . . . .                                                                                                         | 270  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| picture: Fix for \makebox in picture. .                                                 | 616    | Added boolean<br>HTMLDebugComments. . . . .                                                                                             | 264  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| v0.27                                                                                   |        | Added boolean HTMLMarkFloats,<br>changed to WPMarkFloats as of<br>v0.42. . . . .                                                        | 271  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@footnotetext: Fix for table<br>footnote par tags. . . . .                          | 390    | Docs: Modifying lwarpmk and index<br>processing. . . . .                                                                                | 200  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| General: 2017/04/04 . . . . .                                                           | 1      | File: lwarpm_mathjax.txt: Updated<br>CDN repository. . . . .                                                                            | 328  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| letrine: Added. . . . .                                                                 | 937    | Forced oneside to maintain large<br>right margin. . . . .                                                                               | 250  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| microtype: Fix with XeLATEX,<br>LuaLATEX. . . . .                                       | 1004   | v0.29                                                                                                                                   |      |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| soul: Added. . . . .                                                                    | 1159   | General: 2017/04/15 . . . . .                                                                                                           | 1    |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| ulem: Added. . . . .                                                                    | 1252   | Docs: Installing utilities for MACOS. .                                                                                                 | 85   | *.lwarpmkconf: Add: language<br>option for config files. . . . . | 284 | Docs: Limitations of saveboxes. . | 130 | <i>lwarpmk.conf</i> : Add: language<br>option for config files. . . . . | 284 | Page geometry modified to reduce<br>line overflow. . . . . | 250 | graphics: Fix: Error when no<br>optional arguments. . . . . | 884 | v0.28 |  | <i>lwarpmk</i> : Add: language option for<br>config files. . . . . | 332 | \@wrindex: Improved indexing. . . . . | 555 | Add: lwarpmklang option for<br>lwarp. . . . . | 242 | \HTMLAuthor: Added \HTMLauthor.<br>(Renamed in v0.30.) . . . . . | 386 | Docs: Using a glossary . . . . . | 98 | \LWR@LwarpEnd: If FormatEPUB or<br>FormatWP, no bottom nav. . . . . | 431 | v0.30 |  | \LWR@LwarpStart:<br>FormatWordProcessor forces<br>single-file output. . . . . | 427 | \CSSFilename: Renamed from<br>\NewCSS. . . . . | 385 | \LWR@filestart: Adds HTML meta<br>author. . . . . | 424 | \HTMLAuthor: Renamed from<br>\HTMLauthor. . . . . | 386 | \LWR@forcenewpage: Forces new PDF<br>page before major environments. . | 365 | \HTMLDescription: Renamed from<br>\NewHTMLdescription. . . . . | 387 | \LWR@htmlcomment: Breaks ligatures in<br>HTML comments. . . . . | 372 | \HTMLFirstPageTop: Renamed from<br>\SetFirstPageTop. . . . . | 384 | \LWR@hyperindexrefsubtwo:<br>Improved indexing. . . . . | 560 | \HTMLLanguage: Renamed from<br>\MetaLanguage. . . . . | 423 | \LWR@newhtmlfile: If FormatEPUB or<br>FormatWP: skips headers, footers,<br>nav. . . . . | 408 | \HTMLPageBottom: Renamed from<br>\SetPageBottom. . . . . | 385 | \LWR@parseablecols: Added L, C, R,<br>J column types. . . . . | 482 | \HTMLPageTop: Renamed from<br>\SetPageTop. . . . . | 384 | \LWR@startref: Removed space. . . | 529 | General: 2017/04/29 . . . . . | 1 | \chapter: If EPUB, prints footnotes<br>before each section. . . . . | 422 | <i>lwarp-newproject</i> removed, and<br>combined with lwarp. . . . . | 277 | \textup: Fixed span class. . . . . | 631 | <i>lwarpmk</i> : Add: xdyfile<br>configuration option. . . . . | 332 | General: 2017/04/14 . . . . . | 1 | <i>lwarpmk</i> : Fix: <i>xindy</i> and <i>texindy</i><br>adjusted for <i>pdflatex</i> , <i>xelatex</i> and<br><i>lualatex</i> . . . . . | 332 | glossaries: Added. . . . . | 874 |  |  | graphics: Adapts to graphics<br>syntax. . . . . | 884 |  |  |
| Docs: Installing utilities for MACOS. .                                                 | 85     | *.lwarpmkconf: Add: language<br>option for config files. . . . .                                                                        | 284  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| Docs: Limitations of saveboxes. .                                                       | 130    | <i>lwarpmk.conf</i> : Add: language<br>option for config files. . . . .                                                                 | 284  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| Page geometry modified to reduce<br>line overflow. . . . .                              | 250    | graphics: Fix: Error when no<br>optional arguments. . . . .                                                                             | 884  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| v0.28                                                                                   |        | <i>lwarpmk</i> : Add: language option for<br>config files. . . . .                                                                      | 332  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \@wrindex: Improved indexing. . . . .                                                   | 555    | Add: lwarpmklang option for<br>lwarp. . . . .                                                                                           | 242  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \HTMLAuthor: Added \HTMLauthor.<br>(Renamed in v0.30.) . . . . .                        | 386    | Docs: Using a glossary . . . . .                                                                                                        | 98   |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@LwarpEnd: If FormatEPUB or<br>FormatWP, no bottom nav. . . . .                     | 431    | v0.30                                                                                                                                   |      |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@LwarpStart:<br>FormatWordProcessor forces<br>single-file output. . . . .           | 427    | \CSSFilename: Renamed from<br>\NewCSS. . . . .                                                                                          | 385  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@filestart: Adds HTML meta<br>author. . . . .                                       | 424    | \HTMLAuthor: Renamed from<br>\HTMLauthor. . . . .                                                                                       | 386  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@forcenewpage: Forces new PDF<br>page before major environments. .                  | 365    | \HTMLDescription: Renamed from<br>\NewHTMLdescription. . . . .                                                                          | 387  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@htmlcomment: Breaks ligatures in<br>HTML comments. . . . .                         | 372    | \HTMLFirstPageTop: Renamed from<br>\SetFirstPageTop. . . . .                                                                            | 384  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@hyperindexrefsubtwo:<br>Improved indexing. . . . .                                 | 560    | \HTMLLanguage: Renamed from<br>\MetaLanguage. . . . .                                                                                   | 423  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@newhtmlfile: If FormatEPUB or<br>FormatWP: skips headers, footers,<br>nav. . . . . | 408    | \HTMLPageBottom: Renamed from<br>\SetPageBottom. . . . .                                                                                | 385  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@parseablecols: Added L, C, R,<br>J column types. . . . .                           | 482    | \HTMLPageTop: Renamed from<br>\SetPageTop. . . . .                                                                                      | 384  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \LWR@startref: Removed space. . .                                                       | 529    | General: 2017/04/29 . . . . .                                                                                                           | 1    |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \chapter: If EPUB, prints footnotes<br>before each section. . . . .                     | 422    | <i>lwarp-newproject</i> removed, and<br>combined with lwarp. . . . .                                                                    | 277  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| \textup: Fixed span class. . . . .                                                      | 631    | <i>lwarpmk</i> : Add: xdyfile<br>configuration option. . . . .                                                                          | 332  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| General: 2017/04/14 . . . . .                                                           | 1      | <i>lwarpmk</i> : Fix: <i>xindy</i> and <i>texindy</i><br>adjusted for <i>pdflatex</i> , <i>xelatex</i> and<br><i>lualatex</i> . . . . . | 332  |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| glossaries: Added. . . . .                                                              | 874    |                                                                                                                                         |      |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |
| graphics: Adapts to graphics<br>syntax. . . . .                                         | 884    |                                                                                                                                         |      |                                                                  |     |                                   |     |                                                                         |     |                                                            |     |                                                             |     |       |  |                                                                    |     |                                       |     |                                               |     |                                                                  |     |                                  |    |                                                                     |     |       |  |                                                                               |     |                                                |     |                                                   |     |                                                   |     |                                                                        |     |                                                                |     |                                                                 |     |                                                              |     |                                                         |     |                                                       |     |                                                                                         |     |                                                          |     |                                                               |     |                                                    |     |                                   |     |                               |   |                                                                     |     |                                                                      |     |                                    |     |                                                                |     |                               |   |                                                                                                                                         |     |                            |     |  |  |                                                 |     |  |  |

|                                                                                                                                    |     |                                                                                   |          |
|------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|----------|
| <i>lwarpmk</i> : Fix: <i>xindy</i> now used for print index generation with <i>latexmk</i> . . . . .                               | 332 | Add: Tabular at and bang columns now have their own HTML columns. . . . .         | 460      |
| <i>lwarpmk</i> : language now used for both index and glossary generation. . . . .                                                 | 332 | cleveref: Fix: Loaded \AtEndPreamble. . . . .                                     | 616      |
| File: <i>l warp_html.xdy</i> renamed to <i>l warp.xdy</i> . . . . .                                                                | 327 | Fix: Incorrectly-inline math environments. . . . .                                | 591      |
| Fix: *.css files only written in print mode. . . . .                                                                               | 285 | New handling of & to localize catcode changes. . . . .                            | 460      |
| Fix: <i>l warp.xdy</i> only written in print mode. . . . .                                                                         | 327 | v0.34                                                                             |          |
| Fix: <i>l warp_mathjax.txt</i> : Only written in print mode. . . . .                                                               | 328 | \@fnsymbol: Text symbols instead of math. . . . .                                 | 439      |
| Option <i>lwarpmklang</i> changed to <i>IndexLanguage</i> . . . . .                                                                | 242 | \InlineClass: Moved optional argument in front of mandatory. . . . .              | 375      |
| Option <i>OSWindows</i> replaces macro <i>\warpOSwindows</i> . . . . .                                                             | 243 | \LWR@htmldivclass: Moved optional argument in front of mandatory. . . . .         | 374      |
| Option <i>xdyFilename</i> added. . . . .                                                                                           | 242 | \LWR@htmlelementclass: Moved optional argument in front of mandatory. . . . .     | 373      |
| Option <i>latexmk</i> replaces macro <i>\UseLatexmk</i> . . . . .                                                                  | 244 | \LWR@htmlelementclassline: Moved optional argument in front of mandatory. . . . . | 374      |
| Options <i>HomeHTMLFilename</i> and <i>HTMLFilename</i> replace macros <i>\HomeHTMLFilename</i> and <i>\HTMLFilename</i> . . . . . | 243 | \LWR@htmlspanclass: Moved optional argument in front of mandatory. . . . .        | 371      |
| v0.31                                                                                                                              |     | \LWR@nullfonts: Improved font control. . . . .                                    | 565      |
| General: 2017/05/15 . . . . .                                                                                                      | 1   | \LWR@restoreorigformatting: booktabs: Works inside <i>lateximage</i> . . . . .    | 563      |
| <i>keyfloat</i> : Improved compatibility. . . . .                                                                                  | 923 | Improved font control. . . . .                                                    | 563      |
| v0.32                                                                                                                              |     | \LWR@subhtmlelementclass: Moved optional argument in front of mandatory. . . . .  | 373      |
| \RequirePackage: Fix: Ignores blanks in package list. . . . .                                                                      | 258 | \LWR@tabledatatablecolumntag: booktabs: Works inside <i>lateximage</i> . . . . .  | 513      |
| General: 2016/06/09 . . . . .                                                                                                      | 1   | \fboxBlock: Added. . . . .                                                        | 626      |
| <i>glossaries</i> : Prevent error with <i>\glo@name</i> not defined. . . . .                                                       | 561 | \makebox: Fix: Handles paren arg. . . . .                                         | 624      |
| <i>lwarpmk</i> : Fix: <i>io.lines()</i> changed to <i>file:lines()</i> due to <i>luatex</i> changes. . . . .                       | 332 | General: 2017/08/08 . . . . .                                                     | 1        |
| v0.33                                                                                                                              |     | <b>babel-french</b> : Adds fixed-width HTML spaces to punctuation. . . . .        | 367      |
| \HTMLAuthor: Fix: Provides empty default author if none given. . . . .                                                             | 386 | <b>balance</b> : Added. . . . .                                                   | 703      |
| \LWR@loadbefore: Fix: No <i>\PackageError</i> if already loaded. . . . .                                                           | 215 | booktabs: Works inside <i>lateximage</i> . . . . .                                | 516, 720 |
| \LWR@parseatcolumn: Fix: Column alignment with leftmost @. . . . .                                                                 | 471 | boxedminipage2e: Added. . . . .                                                   | 722      |
| \LWR@tabledatatablesinglecolumntag: Fix: Macros in tabular could cause extra data cell. . . . .                                    | 488 | crop: Added. . . . .                                                              | 780      |
| \LWR@vspace: Add: <i>\vspace</i> nullified. . . . .                                                                                | 644 | enumerate: Added. . . . .                                                         | 807      |
| \StartDefiningTabulars: Add: Avoids error: Misplaced alignment tab character &. . . . .                                            | 355 | enumitem: Added, no longer required. . . . .                                      | 807      |
| General: 2017/07/10 . . . . .                                                                                                      | 1   | everyshi: Added. . . . .                                                          | 818      |
| <i>amsmath</i> : Removed <i>fleqn</i> option. . . . .                                                                              | 677 | fancybox: Added. . . . .                                                          | 820      |
| <i>fancyhdr</i> : Fix: Optional args for <i>\thead</i> , etc. . . . .                                                              | 824 | fancyverb: Added, no longer required. . . . .                                     | 828      |
|                                                                                                                                    |     | figcaps: Added. . . . .                                                           | 837      |
|                                                                                                                                    |     | filecontents: Required. Patched for morewrites. . . . .                           | 253      |

|                                                                                                                                         |      |
|-----------------------------------------------------------------------------------------------------------------------------------------|------|
| floatpag: Added. . . . .                                                                                                                | 844  |
| flushend: Added. . . . .                                                                                                                | 850  |
| fullpage: Added. . . . .                                                                                                                | 865  |
| hyperxmp: Added. . . . .                                                                                                                | 906  |
| idxlayout: Added. . . . .                                                                                                               | 908  |
| marginfit: Added. . . . .                                                                                                               | 971  |
| mdframed: Improved mdtheorem<br>patch. . . . .                                                                                          | 994  |
| moreverb: Added. . . . .                                                                                                                | 1012 |
| paralist: Added. . . . .                                                                                                                | 1064 |
| pdfscape: Added. . . . .                                                                                                                | 1074 |
| pdfsync: Added. . . . .                                                                                                                 | 1078 |
| prelim2e: Added. . . . .                                                                                                                | 1088 |
| rotfloat: Added. . . . .                                                                                                                | 1105 |
| savetrees: Added. . . . .                                                                                                               | 1106 |
| shadow: Added. . . . .                                                                                                                  | 1122 |
| syntonly: Added. . . . .                                                                                                                | 1190 |
| titlesp: No longer required. . . . .                                                                                                    | 1222 |
| titleref: Prevented. . . . .                                                                                                            | 1225 |
| xcolor: Added<br>\LWR@subfcollminipage. . . . .                                                                                         | 1281 |
| xmpincl: Added. . . . .                                                                                                                 | 1289 |
| Docs: Horizontal space limitations. . . . .                                                                                             | 1    |
| Docs: Misplaced alignment<br>character. . . . .                                                                                         | 203  |
| File: l warp_mathjax.txt: Version<br>change. . . . .                                                                                    | 328  |
| File: README.txt: updated. . . . .                                                                                                      | 1    |
| Fix: Added the eqnarray<br>environments. . . . .                                                                                        | 591  |
| Improved font control. . . . .                                                                                                          | 629  |
| Lists refactored to remove<br>enumitem requirement. . . . .                                                                             | 451  |
| Verbatim refactored to remove<br>fancyvrb requirement. . . . .                                                                          | 446  |
| tabular: booktabs: Works inside<br>latexitimage. . . . .                                                                                | 517  |
| latexitimage: Fix: latexitimage with<br>minipage, \parbox, \makebox,<br>\fbox, \framebox, \raisebox,<br>\scalebox, \reflectbox. . . . . | 599  |
| BlockClass: Moved optional<br>argument in front of mandatory. . . . .                                                                   | 375  |
| fminipage: Added. . . . .                                                                                                               | 626  |
| \LWR@nestspan: Fix: Minipages,<br>BlocksClass, and lists inside a<br>span. . . . .                                                      | 370  |
| v0.35                                                                                                                                   |      |
| General: 2017/08/08 . . . . .                                                                                                           | 1    |
| Fix: \textbf and related. . . . .                                                                                                       | 629  |
| v0.36                                                                                                                                   |      |
| \LWR@footnotetext: Extra HTML<br>source space after paragraphs. . . . .                                                                 | 390  |
| Force HTML superscripts. . . . .                                                                                                        | 390  |
| \LWR@HTMLsanitizeexpand: Fix for<br>babel-french. . . . .                                                                               | 403  |
| \LWR@closeparagraph: Extra HTML<br>source space after paragraphs. . . . .                                                               | 380  |
| \LWR@currenttextcolor: Fix for<br>\rule when xcolor not loaded. . . . .                                                                 | 638  |
| \LWR@nullfonts: Fix: Filenames while<br>using MATHJAX. . . . .                                                                          | 565  |
| \LWR@restoreorigformatting:<br>siunitx: Improved<br>super/subscripts in a<br>latexitimage. . . . .                                      | 563  |
| \LWR@section: Improved spacing. . . . .                                                                                                 | 415  |
| \LWR@stoppars: Extra HTML source<br>space after paragraphs. . . . .                                                                     | 382  |
| \LWR@subHTMLsanitize: Fix for<br>babel-french. . . . .                                                                                  | 402  |
| \fbox: Fix: Uses \fboxrule and<br>\fboxsep. . . . .                                                                                     | 625  |
| \framebox: Fix: Handles width and<br>horiz position. . . . .                                                                            | 625  |
| \makebox: Fix: Handles width and<br>horiz position. . . . .                                                                             | 624  |
| General: 2017/08/17 . . . . .                                                                                                           | 1    |
| babel-french: Adjustements for<br>French variants, load order,<br>footnotes, ellipses. . . . .                                          | 367  |
| footnote: Extra HTML source space<br>after paragraphs. . . . .                                                                          | 856  |
| siunitx: Fix for babel-french. . . . .                                                                                                  | 609  |
| siunitx: Improved symbol<br>support. . . . .                                                                                            | 1139 |
| transparent: Added. . . . .                                                                                                             | 1247 |
| upref: Added. . . . .                                                                                                                   | 1261 |
| xcolor: Added \fcolorboxBlock,<br>\colorboxBlock. . . . .                                                                               | 1274 |
| xcolor: Fix: Background none in<br>print mode. . . . .                                                                                  | 1274 |
| xcolor: Refactored<br>\LWR@colorstyle. . . . .                                                                                          | 1277 |
| xcolor: Uses \fboxrule and<br>\fboxsep. . . . .                                                                                         | 1274 |
| xcolor: \fcolorbox etc. now work<br>inside latexitimage. . . . .                                                                        | 1274 |
| Docs: Reorganized: Special cases<br>and limitations. . . . .                                                                            | 127  |
| Source: Improved formatting. . . . .                                                                                                    | 1    |
| tabular: Fix for babel-french. . . . .                                                                                                  | 517  |
| latexitimage: Footnotes appear in<br>regular text instead of the<br>latexitimage minipage. . . . .                                      | 599  |
| v0.37                                                                                                                                   |      |
| @\include: Maintains independent<br>aux files for HTML. . . . .                                                                         | 262  |
| General: 2017/08/19 . . . . .                                                                                                           | 1    |

|                                                                        |           |                                                                                             |           |
|------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------|-----------|
| L <sup>A</sup> T <sub>E</sub> X accents: Added. . . . .                | 275       | Supports authblk with <div>s of class oneauthor instead of tabular. . . . .                 | 440, 1232 |
| babel-french: Adjustment for load order. . . . .                       | 367       | \AddSubtitlePublished: Added. . . . .                                                       | 442       |
| color: Prevented. . . . .                                              | 777       | \LWR@domulticolumn: Add: Optional vpos and # rows. . . . .                                  | 503       |
| siunitx: Improved symbol support. . . . .                              | 1139      | \LWR@restoreorigformatting: Appended with \appto instead of calling various macros. . . . . | 563       |
| textcomp: Improved support. . . . .                                    | 1206      | \LWR@tabledatacolumntag: Don't start a data cell if see TabularMacro. . . . .               | 513       |
| <i>lwarpmk</i> : Removes additional HTML aux files. . . . .            | 332       | \ResumeTabular: Added. . . . .                                                              | 512       |
| File handles reorganized. . . . .                                      | 261       | \TabularMacro: Added. . . . .                                                               | 512       |
| v0.38                                                                  |           | \multicolumnrow: Added. . . . .                                                             | 510, 1022 |
| \@seccntformat: Added for appendix. . . . .                            | 415       | \printauthor: Removed minipages. . . . .                                                    | 437       |
| \ForceHTMLPage: Added. . . . .                                         | 412       | Supports authblk with <div>s of class oneauthor instead of tabular. . . . .                 | 437       |
| \ForceHTMLTOC: Added. . . . .                                          | 413       | \thanksmarkseries: Removed minipage footnotes. . . . .                                      | 1233      |
| \LWR@section: \part* starts a new HTML page, for appendix. . . . .     | 415       | General: 2017/09/05 . . . . .                                                               | 1         |
| Modified spacing, uses \numberline. . . . .                            | 415       | a4wide: Added. . . . .                                                                      | 661       |
| \numberline: Added trailing \quad. . . . .                             | 550       | a4: Added. . . . .                                                                          | 660       |
| \part: Fix with article class. . . . .                                 | 422       | a5comb: Added. . . . .                                                                      | 661       |
| General: 2017/08/27 . . . . .                                          | 1         | addlines: Added. . . . .                                                                    | 671       |
| appendix: Added. . . . .                                               | 687       | any size: Added. . . . .                                                                    | 687       |
| arabicfront: Added. . . . .                                            | 689       | authblk: Added. . . . .                                                                     | 697       |
| chappg: Added. . . . .                                                 | 741       | bigdelim: Added. . . . .                                                                    | 716       |
| color: Forces xcolor as well. . . . .                                  | 777       | bigstrut: Added. . . . .                                                                    | 717       |
| fix2col: Added. . . . .                                                | 838       | ebook: Added. . . . .                                                                       | 792       |
| fncychap: Added. . . . .                                               | 850       | fullwidth: Added. . . . .                                                                   | 866       |
| grffile: Added. . . . .                                                | 889       | midpage: Added. . . . .                                                                     | 1005      |
| metalogo: Added. . . . .                                               | 1000      | multirow: Add: New optional vpos argument. . . . .                                          | 1020      |
| nonumonpart: Added. . . . .                                            | 1047      | multirow: Add: Supports left/right border for bigdelim. . . . .                             | 1020      |
| nopageno: Added. . . . .                                               | 1047      | multirow: Fix: Long text argument. . . . .                                                  | 1020      |
| pagenote: Option page disabled. . . . .                                | 1064      | supertabular: Added. . . . .                                                                | 1187      |
| realscripts: Added. . . . .                                            | 1095      | textarea: Added. . . . .                                                                    | 1206      |
| relsize: Added. . . . .                                                | 1100      | titling: Improved compatibility. . . . .                                                    | 1229      |
| romanbarpagenumber: Added. . . . .                                     | 1104      | titling: Removed extraneous center environments. . . . .                                    | 1230      |
| romanbar: Added. . . . .                                               | 1104      | typearea: Added. . . . .                                                                    | 1251      |
| scalefont: Added. . . . .                                              | 1107      | xtabular: Added. . . . .                                                                    | 1293      |
| siunitx: Removed from <i>lwarf</i> core. . . . .                       | 1139      | zwpagelayout: Added. . . . .                                                                | 1297      |
| textcomp: Removed from <i>lwarf</i> core. . . . .                      | 1206      | Docs: Reorganized tabular discussion. . . . .                                               | 171       |
| tocbibind: Added. . . . .                                              | 1235      | Titlepage \published and \subtitle removed. . . . .                                         |           |
| xltxta: Added. . . . .                                                 | 1289      | \AddSubtitlePublished restores. . . . .                                                     | 441       |
| <i>lwarpmk</i> : Added <b>print1</b> and <b>html1</b> actions. . . . . | 332       | titlepage: Clear pending footnotes. . . . .                                                 | 436       |
| Added \markboth, \sloppy, etc. . . . .                                 | 365       | Removed minipages. . . . .                                                                  | 436       |
| Docs: Enhanced <i>Supported Features</i> table. . . . .                | 70        |                                                                                             |           |
| Docs: Index, tocbibind. . . . .                                        | 143       |                                                                                             |           |
| Docs: Starred sections. . . . .                                        | 139       |                                                                                             |           |
| v0.39                                                                  |           |                                                                                             |           |
| \@maketitle: titling version. . . . .                                  | 1232      |                                                                                             |           |
| Native L <sup>A</sup> T <sub>E</sub> X version. . . . .                | 440       |                                                                                             |           |
| Removed minipages. . . . .                                             | 440, 1232 |                                                                                             |           |

|                                                                                                                 |      |                                                                                           |      |
|-----------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------|------|
| titlingpage: Clear pending<br>footnotes. . . . .                                                                | 1230 | tocbibind: Improved for<br>\simplechapter. . . . .                                        | 1235 |
| v0.40                                                                                                           |      | xfrac: No longer preloaded. . . . .                                                       | 255  |
| \@chapcntformat: Added for<br>tocbibind, anonchap. . . . .                                                      | 415  | \xltxtra: Fix for \showhyphens with<br>XeLaTeX. . . . .                                   | 1289 |
| \LWR@HTMLhline: Added. . . . .                                                                                  | 516  | v0.41                                                                                     |      |
| \LWR@nullfonts: Fix: Long arguments<br>for expandable command. . . . .                                          | 565  | \@LWR@addcmidruletrim: Add:<br>\cmidrule trims. . . . .                                   | 493  |
| \@LWR@restoreorigformatting:<br>Improved L <sup>A</sup> T <sub>E</sub> X logos inside a<br>latextimage. . . . . | 563  | \@LWR@clearmidrules: Add:<br>\cmidrule trims. . . . .                                     | 491  |
| Improved symbols inside a<br>latextimage. . . . .                                                               | 563  | \@LWR@closetabledatacell: Add:<br>Mute > for \bottomrule. . . . .                         | 465  |
| Nullified \InlineClass, etc. inside<br>a latextimage. . . . .                                                   | 563  | Fix: At/bang column with<br>\multirow. . . . .                                            | 465  |
| \@LWR@tabledatacolumnntag: Fix for<br>bigdelim: \ldelim, \rdelim. . . . .                                       | 513  | Fix: Cancel < for \multicolumn. . . . .                                                   | 466  |
| \chapter: Added support for<br>quotchap. . . . .                                                                | 422  | \@LWR@domulticolumn: Add:<br>\cmidrule trims. . . . .                                     | 503  |
| \multicolumnrow: Fix: Adapts to older<br>multirow and xparse. . . . .                                           | 510  | Added vertical rules. . . . .                                                             | 504  |
| \simplechapterdelim: Added for<br>tocbibind, anonchap. . . . .                                                  | 415  | \@LWR@nullifyNoAutoSpacing:<br>babel-french: Fix:<br>\NoAutoSpacing in a tabular. . . . . | 517  |
| \underline: Added. . . . .                                                                                      | 638  | \@LWR@parsebarcolumn: Added vertical<br>rules. . . . .                                    | 474  |
| General: 2017/09/25 . . . . .                                                                                   | 1    | \@LWR@printatbang: Add: \cmidrule<br>trims. . . . .                                       | 487  |
| adjmulticol: Added. . . . .                                                                                     | 670  | Add: Mute at and bang columns for<br>\bottomrule. . . . .                                 | 487  |
| anonchap: Added. . . . .                                                                                        | 686  | \@LWR@printbartag: Added vertical<br>rules. . . . .                                       | 486  |
| bigdelim: Improved<br>documentation. . . . .                                                                    | 716  | \@LWR@subaddcmidruletrim: Added. . . . .                                                  | 493  |
| cuted: Added. . . . .                                                                                           | 783  | \@LWR@subcmidrule: Add: \cmidrule<br>trims. . . . .                                       | 491  |
| dblfnote: Added. . . . .                                                                                        | 784  | \@LWR@tabledatasinglecolumnntag:<br>Add: \cmidrule trims. . . . .                         | 488  |
| fnpos: Added. . . . .                                                                                           | 852  | Add: Mute < for \bottomrule. . . . .                                                      | 488  |
| graphics: Add: Full \graphicspath<br>support. . . . .                                                           | 884  | \@LWR@tabularfinishrow: Unfinished<br>tabular rows automatically filled. . . . .          | 468  |
| graphics: Moved out of the lwrap<br>core. . . . .                                                               | 876  | \@mcolrowcell: Added for<br>\multicolumnrow cells. . . . .                                | 516  |
| graphics: Restores<br>\includegraphics and<br>\DeclareGraphicsExtensions in<br>a latextimage. . . . .           | 876  | General: 2017/10/07 . . . . .                                                             | 1    |
| graphicx: Moved out of the lwrap<br>core. . . . .                                                               | 889  | booktabs: Improved rules. . . . .                                                         | 720  |
| grffile: Directly supported. . . . .                                                                            | 889  | multirow: Add: \cmidrule trims. . . . .                                                   | 1020 |
| midfloat: Added. . . . .                                                                                        | 1005 | Added vertical rules. . . . .                                                             | 1020 |
| multirow: Improved bigdelim<br>borders. . . . .                                                                 | 1020 | Fix: < spec. . . . .                                                                      | 1021 |
| pfnote: Added. . . . .                                                                                          | 1080 | tabular: Fix: \NoAutoSpacing in a<br>tabular with babel-french. . . . .                   | 518  |
| quotchap: Added. . . . .                                                                                        | 1093 | v0.42                                                                                     |      |
| sectsty: Added. . . . .                                                                                         | 1118 | \@ensuredmath: Improved<br>\ensuremath. . . . .                                           | 581  |
| stabular: Added. . . . .                                                                                        | 1165 | \@textsubscript: Added. . . . .                                                           | 637  |
| tbls: Added. . . . .                                                                                            | 1191 | \@textsuperscript: Added. . . . .                                                         | 637  |
| textcomp: Additional symbols,<br>improved XeLaTeX and LuaLaTeX<br>support. . . . .                              | 1206 | \@LWR@HTMLhline: If FormatWP force<br>explicit border. . . . .                            | 516  |

|                                                                                       |      |
|---------------------------------------------------------------------------------------|------|
| \LWR@addformatwpalignment: If FormatWP add explicit style for cell alignment. . . . . | 495  |
| \LWR@addrulewidth: If FormatWP force explicit border. . . . .                         | 493  |
| \LWR@amsmathbody: Fix: Numbering and naming AMS math environments. . . . .            | 597  |
| \LWR@amsmathbodynumbered: Fix: Numbering and naming AMS math environments. . . . .    | 597  |
| \LWR@doequation: If FormatWP print LaTeX expression. . . . .                          | 586  |
| \LWR@domulticolumn: If FormatWP add cell alignment. . . . .                           | 505  |
| \LWR@doubledollar: If FormatWP print LaTeX expression. . . . .                        | 579  |
| Improved \ensuremath. . . . .                                                         | 579  |
| Improved line spacing with mathjax. . . . .                                           | 579  |
| \LWR@floatbegin: If FormatWP add a text frame. . . . .                                | 537  |
| \LWR@floatend: If FormatWP add a text frame. . . . .                                  | 538  |
| \LWR@remembertag: Fix: Numbering and naming AMS math environments. . . . .            | 597  |
| \LWR@restoreorigformatting: Improved \ensuremath. . . . .                             | 564  |
| \LWR@subaddcmidruletrim: Opt if no rule given. . . . .                                | 493  |
| \LWR@subsingledollar: If FormatWP print LaTeX expression. . . . .                     | 577  |
| \LWR@tabledatasinglecolumntag: If FormatWP add cell alignment. . . . .                | 489  |
| \LaTeX: If FormatWP use explicit style. . . . .                                       | 649  |
| \TeX: If FormatWP use explicit style. . . . .                                         | 649  |
| \hspace: If FormatWP add \quads. . . . .                                              | 643  |
| \listoffigures: Added boolean WPMarkLOFT. . . . .                                     | 547  |
| \listoftables: Added boolean WPMarkLOFT. . . . .                                      | 547  |
| \marginpar: If FormatWP emulate a wrapfig. . . . .                                    | 394  |
| \marginparBlock: If FormatWP emulate a wrapfig. . . . .                               | 394  |
| \rule: If FormatWP add \quads. . . . .                                                | 646  |
| \tableofcontents: Added boolean WPMarkTOC. . . . .                                    | 547  |
| \underline: If FormatWP, use explicit styles for \underline, etc. . . . .             | 638  |
| General: 2017/10/30 . . . . .                                                         | 1    |
| \textbf and related: If FormatWP, use explicit styles for \textsc, etc. . . . .       | 629  |
| algorithmicx: If FormatWP add \quads. . . . .                                         | 675  |
| booktabs: If FormatWP force explicit border. . . . .                                  | 720  |
| epigraph: If FormatWP add HTML styles. . . . .                                        | 807  |
| fancybox: If FormatWP add HTML styles. . . . .                                        | 820  |
| floatflt: Added width. . . . .                                                        | 843  |
| graphics: Fix: Class key. . . . .                                                     | 880  |
| graphics: Fix: Filename expansion. . . . .                                            | 884  |
| graphics: If FormatWP, use explicit size. . . . .                                     | 881  |
| keyfloat: If FormatWP add explicit HTML style. . . . .                                | 927  |
| moreverb: Simplified formatting of listings. . . . .                                  | 1012 |
| multirow: If FormatWP add cell alignment. . . . .                                     | 1020 |
| overpic: Added. . . . .                                                               | 1063 |
| realscripts: Fix for subscripts in a lateximage. . . . .                              | 1095 |
| sidenotes: If FormatWP add explicit HTML style. . . . .                               | 1126 |
| siunitx: Improved \ensuremath. . . . .                                                | 1139 |
| soul: If FormatWP, add explicit styles. . . . .                                       | 1159 |
| textcomp: Improved \interrobangdown. . . . .                                          | 1206 |
| wrapfig: If FormatWP add explicit HTML style. . . . .                                 | 1272 |
| Added boolean WPMarkLOFT. . . . .                                                     | 271  |
| Added boolean WPMarkMath. . . . .                                                     | 272  |
| Added boolean WPMarkMinipages. . . . .                                                | 271  |
| Added boolean WPMarkTOC. . . . .                                                      | 271  |
| Added boolean WPTitleHeading. . . . .                                                 | 272  |
| Docs: Added support page. . . . .                                                     | 2    |
| Docs: Improper \prevdepth. . . . .                                                    | 203  |
| Docs: Reorganized math limitations . . . . .                                          | 158  |
| File: l warp_mathjax.txt: Updated siunitx script. . . . .                             | 328  |
| Fix: Numbering and naming AMS math environments. . . . .                              | 596  |
| If FormatWP, shift section headings. . . . .                                          | 272  |
| tabbing: Added. . . . .                                                               | 448  |
| lateximage: Fix: Numbering and naming AMS math environments. . . . .                  | 599  |
| center: If FormatWP use explicit text-align. . . . .                                  | 605  |
| minipage: Added boolean WPMarkMinipages. . . . .                                      | 622  |
| If FormatWP add a text frame. . . . .                                                 | 620  |
| eqnarray: Fix: Numbering and naming AMS math environments. . . . .                    | 593  |

|                                                                            |               |
|----------------------------------------------------------------------------|---------------|
| If FormatWP print LaTeX expression.                                        | 592           |
| \LWR@BlockClassWP: Added to factor code.                                   | 376           |
| \LWR@figcaption: If FormatWP forces italic captions.                       | 542           |
| v0.43                                                                      |               |
| \lwr@domulticolumn: Fix for vertical rules.                                | 504           |
| Fix: Multicolumn trim.                                                     | 504           |
| \lwr@href: Made robust.                                                    | 533           |
| \lwr@maybeprintpendingfootnotes: Added FootnoteDepth.                      | 393           |
| \lwr@nolinkurl: Made robust.                                               | 534           |
| \lwr@nullfonts: Fix: Nullify dollar inside filenames.                      | 565           |
| \lwr@parsetablecols: Ignore spaces in col spec.                            | 482           |
| \lwr@section: Fix: Expansion in comparison.                                | 416           |
| Fix: Math in section name.                                                 | 418, 420      |
| Fix: Nullify fonts inside HTML comment.                                    | 417           |
| \lwr@url: Made robust.                                                     | 534           |
| \tabularmacro: \newcommand instead of \relax to fix supertabular and xtab. | 512           |
| \nameref: Made robust.                                                     | 531           |
| General: 2017/11/08                                                        | 1             |
| \lwr@currentautosecpage: Added.                                            | 395           |
| breakurl: Added.                                                           | 723           |
| hyperref: Made robust.                                                     | 901, 903, 905 |
| hyperref: \Gauge added.                                                    | 906           |
| luatodonotes: Added.                                                       | 964           |
| todonotes: Added.                                                          | 1245          |
| Added FootnoteDepth.                                                       | 388           |
| Docs: HTML settings table.                                                 | 114           |
| Docs: Reorganized HTML customization.                                      | 114           |
| v0.44                                                                      |               |
| @\currentlabelname: Adjustment for koma-script.                            | 523           |
| \HTMLTitle: Added.                                                         | 386           |
| \lwr@addformatwpalignment: Fix for multicolumn alignment if FormatWP.      | 495           |
| \lwr@backgroundcolor: xcolor:                                              |               |
| Added \lwr@backgroundcolor.                                                | 1278          |
| \lwr@filestart: Add \HTMLTitle.                                            | 426           |
| Fix \HTMLAuthor.                                                           | 425           |
| \lwr@listitem: Added list and trivlist.                                    | 453           |
| \lwr@patchlists: Added list and trivlist.                                  | 456           |
| \lwr@strresult: Fix:                                                       |               |
| \providecommand.                                                           | 463           |
| \lwr@textcurrentcolor: xcolor:                                             |               |
| Added \lwr@textcurrentcolor.                                               | 1277          |
| \addcontentsline: Automatic                                                |               |
| \lwr@newfloatanchor.                                                       | 544           |
| \chapter: Add preamble for koma-script.                                    | 422           |
| \marginparblock: Added.                                                    | 394           |
| \nopagecolor: xcolor: Fix for \nopagecolor.                                | 1279          |
| \part: Add preamble for koma-script.                                       | 422           |
| \title: Added \thetitle.                                                   | 386           |
| General: 2017/11/22                                                        | 1             |
| algorithmicx: Improved comment symbol.                                     | 675           |
| atbegshi: Added.                                                           | 693           |
| cancel: Added.                                                             | 727           |
| changepage: Additional options.                                            | 736           |
| easy-todo: Added.                                                          | 791           |
| fancyref: Added.                                                           | 826           |
| fixmetodonotes: Added.                                                     | 840           |
| fixme: Added.                                                              | 839           |
| fontenc: Allowed after lwrap.                                              | 854           |
| hang: Added.                                                               | 891           |
| ifoddpage: Added.                                                          | 909           |
| ltxttable: Added.                                                          | 960           |
| luatodonotes: Improved.                                                    | 964           |
| lwrap-patch-komascript: Added.                                             | 1299          |
| overpic: Fix: Groups for lateximages.                                      | 1063          |
| pdfsync: Fixes.                                                            | 1078          |
| preview: Added.                                                            | 1089          |
| scrextend: Added.                                                          | 1108          |
| scrhack: Added.                                                            | 1112          |
| scrlayer-notecolumn: Added.                                                | 1114          |
| scrlayer-scrpage: Added.                                                   | 1114          |
| scrlayer: Added.                                                           | 1112          |
| section: Added.                                                            | 1117          |
| soulpos: Added.                                                            | 1161          |
| soulutf8: Added.                                                           | 1161          |
| supertabular: Fix for caption.                                             | 1188          |
| tikz: Fix: Groups for lateximages.                                         | 1221          |
| tocbasic: Added.                                                           | 1233          |
| tocloft: Added \newlistentry.                                              | 1242          |
| tocloft: Improved \newlistof.                                              | 1242          |
| tocstyle: Added.                                                           | 1243          |
| todonotes: Improved.                                                       | 1245          |
| todo: Added.                                                               | 1244          |
| typearea: Added expert commands.                                           | 1251          |
| watermark: Added.                                                          | 1269          |
| xcolor: Added \lwr@currenttextcolorstyle.                                  | 1277          |

|                                     |                                                |                                         |          |
|-------------------------------------|------------------------------------------------|-----------------------------------------|----------|
| xcolor:                             | Added                                          |                                         |          |
|                                     | \LWR@findcurrenttextcolor.                     | 1277                                    |          |
| xtab:                               | Fix for caption.                               | 1294                                    |          |
| Adjustment for <i>koma-script</i> . | 229                                            |                                         |          |
| AMS environments:                   | Fix: Groups for                                |                                         |          |
|                                     | <code>lateximages</code> .                     | 678                                     |          |
| If pdfLaTeX, require T1 and UTF-8   | encoding.                                      | 231                                     |          |
| picture:                            | <code>overpic</code> : Fix: Groups for         |                                         |          |
|                                     | <code>lateximages</code> .                     | 616                                     |          |
| list:                               | Added list and <code>trivlist</code> .         | 454                                     |          |
| \LWR@nestspan:                      | Added list and                                 |                                         |          |
|                                     | <code>trivlist</code> .                        | 370                                     |          |
| v0.45                               |                                                |                                         |          |
|                                     | \@currentHref:                                 | Added.                                  | 532      |
|                                     | \@donoparitem:                                 | Modified for HTML.                      | 451      |
|                                     | \@item:                                        | Modified for HTML.                      | 451      |
|                                     | \@mklab:                                       | Modified for HTML.                      | 451      |
|                                     | \CSSFilename:                                  | Improved filenames                      |          |
|                                     | with underscores.                              | 385                                     |          |
|                                     | \LWR@LwarpStart:                               | Fix: <code>Lateximages</code>           |          |
|                                     | on incorrect pages with <code>MATHJAX</code> . | 429                                     |          |
|                                     | \LWR@label@createtag:                          | Fix: Labels                             |          |
|                                     | with underscores.                              | 527                                     |          |
|                                     | \LWR@newautoidanchor:                          | Fix: No                                 |          |
|                                     | anchor if frozen autoid.                       | 539                                     |          |
|                                     | \LWR@nolinkurl:                                | Fix: Underscore in                      |          |
|                                     | URL.                                           | 534                                     |          |
|                                     | \LWR@notmemoirloadafter:                       | Added.                                  | 214      |
|                                     | \LWR@printpendingmpfootnotes:                  | Added.                                  | 393      |
|                                     | \LWR@startref:                                 | Fix: Labels with                        |          |
|                                     | underscores.                                   | 530                                     |          |
|                                     | \LWR@subhyperref:                              | Improved URLs                           |          |
|                                     | with underscores.                              | 533                                     |          |
|                                     | \LWR@subhyperrefclass:                         | Improved                                |          |
|                                     | URLs with underscores.                         | 533                                     |          |
|                                     | \LWR@tabledatacolumntag:                       | Fix:                                    |          |
|                                     | Empty line between rows.                       | 515                                     |          |
|                                     | \LWR@url:                                      | Improved URLs with                      |          |
|                                     | underscores.                                   | 534                                     |          |
|                                     | \chapter:                                      | Add optional heading title              |          |
|                                     | for <i>memoir</i> .                            | 422                                     |          |
|                                     | \newpage:                                      | Added.                                  | 641      |
|                                     | \normalmarginpar:                              | Added.                                  | 394      |
|                                     | \reversemarginpar:                             | Added.                                  | 394      |
|                                     | \section:                                      | Add optional heading title              |          |
|                                     | for <i>memoir</i> .                            | 422                                     |          |
|                                     | \tableofcontents:                              | Fix: Empty                              |          |
|                                     | <code>sitetoc</code> .                         | 547                                     |          |
|                                     | Fix: Patch <code>\AtBeginDocument</code> .     | 547                                     |          |
| General:                            | 2018/01/14                                     | 1                                       |          |
|                                     | array:                                         | Added.                                  | 689      |
|                                     | babel-french:                                  | Robust commands.                        | 367      |
|                                     | backref:                                       | Added.                                  | 703      |
|                                     | breakurl:                                      | Fix: Underscore in URL.                 | 723      |
|                                     | changebar:                                     | Added.                                  | 734      |
|                                     | cite:                                          | Added.                                  | 769      |
|                                     | continue:                                      | Added.                                  | 779      |
|                                     | endfloat:                                      | Added.                                  | 797      |
|                                     | fancyvrb:                                      | Improvements.                           | 828, 829 |
|                                     | flafter:                                       | Added.                                  | 841      |
|                                     | fltrace:                                       | Added.                                  | 849      |
|                                     | footnpag:                                      | Added.                                  | 858      |
|                                     | fwlw:                                          | Added.                                  | 869      |
|                                     | graphics:                                      | Improved URLs with                      |          |
|                                     | underscores.                                   | 884                                     |          |
|                                     | hanging:                                       | Added.                                  | 892      |
|                                     | hyperref:                                      | Fix: Underscore in                      |          |
|                                     | URL.                                           | 901, 902                                |          |
|                                     | lwarp-patch-memoir:                            | Added.                                  | 1302     |
|                                     | memhfixc:                                      | Added.                                  | 999      |
|                                     | memoir:                                        | Added.                                  | 653      |
|                                     | natbib:                                        | Added.                                  | 1028     |
|                                     | pagesel:                                       | Added.                                  | 1064     |
|                                     | prettyref:                                     | Added.                                  | 1088     |
|                                     | subfigure:                                     | Added.                                  | 1185     |
|                                     | subfig:                                        | Fix for subcaption end tag.             | 1184     |
|                                     | subfig:                                        | Fix: Math in subcaptions.               | 1182     |
|                                     | textfit:                                       | Added.                                  | 1210     |
|                                     | titleref:                                      | Added.                                  | 1225     |
|                                     | turnthepage:                                   | Added.                                  | 1249     |
|                                     | Allows memoir's preloaded                      |                                         |          |
|                                     | packages.                                      | 220                                     |          |
|                                     | Docs:                                          | Fix for double hyphens.                 | 85       |
|                                     | Docs:                                          | Improved install instructions.          | 86       |
|                                     | Docs:                                          | Improved MiKTEX install                 |          |
|                                     | instructions.                                  | 82                                      |          |
|                                     | Docs:                                          | Moved table so doesn't                  |          |
|                                     | interfere with install docs.                   | 81                                      |          |
|                                     | File: <code>lwarp_mathjax.txt</code> :         | Allow                                   |          |
|                                     | <code>MATHJAX</code> inside tabbing.           | 328                                     |          |
|                                     | File: <code>lwarp_mathjax.txt</code> :         | Allow                                   |          |
|                                     | <code>MATHJAX</code> inside verse.             | 328                                     |          |
|                                     | Fix:                                           | Empty <code>sitetoc</code> .            | 546      |
|                                     | Improved:                                      | Robust \,, \, , and                     |          |
|                                     | \textellipsis commands.                        | 639                                     |          |
|                                     | Separate <code>\LWR@thisautoidWP</code> for    |                                         |          |
|                                     | word processor <div>s.                         | 539                                     |          |
|                                     | thebibliography:                               | Patched to                              |          |
|                                     | emphasize titles.                              | 562                                     |          |
|                                     | minipage:                                      | Fix: Improper <code>\prevdepth</code> . | 622      |
| v0.46                               |                                                |                                         |          |
|                                     | \LWR@closeparagraph:                           | Fix: Tabular                            |          |
|                                     | empty lines.                                   | 381                                     |          |
|                                     | \LWR@closeprevious:                            | Fix: Stack                              |          |
|                                     | unnesting.                                     | 365                                     |          |
|                                     | \LWR@forcenewpage:                             | Fix: Improper                           |          |
|                                     | <code>\prevdepth</code> .                      | 365                                     |          |

|                                                                                         |            |
|-----------------------------------------------------------------------------------------|------------|
| \LWR@lookforpackagename: Fix:<br>Spaces in \usepackage. . . . .                         | 258        |
| \LWR@popclose: Fix: Stack unnesting.                                                    | 354        |
| \LWR@providelength: Added. . . . .                                                      | 234        |
| \LWR@pushclose: Fix: Stack<br>unnesting. . . . .                                        | 353        |
| \LWRPrintStack: Name changed from<br>\PrintStack. . . . .                               | 364        |
| General: 2018/01/23 . . . . .                                                           | 1          |
| \LWR@tabularpardepth added. . . . .                                                     | 463        |
| amsthm: Adapted to trivlist<br>changes. . . . .                                         | 684        |
| mdframed: Fixes for SVG math or<br>\lateximage in title. . . . .                        | 991        |
| mdframed: Fixes for footnotes. . . . .                                                  | 992        |
| ntheorem: Adapted to trivlist<br>changes. . . . .                                       | 1049       |
| theorem: Adapt to trivlist<br>changes. . . . .                                          | 1213, 1214 |
| tabular: Fix: Tabular empty lines. . . . .                                              | 521        |
| list: Fix: Stack unnesting. . . . .                                                     | 454        |
| v0.47                                                                                   |            |
| \LWR@HTML@caption@begin: Fix:<br>Argument passed to<br>\lWR@origcaption@begin. . . . .  | 542        |
| \lWR@LwarpStart: Fix for SVG math in<br>\nameref. . . . .                               | 430        |
| \lWR@WPcell: Fix: Line wrap at HTML<br>hyphen. . . . .                                  | 495        |
| \lWR@createautosec: Fix: Line wrap<br>at HTML hyphen. . . . .                           | 414        |
| \lWR@domulticolumn: Fix: Line wrap<br>at HTML hyphen. . . . .                           | 505        |
| \lWR@floatbegin: Fix: Line wrap at<br>HTML hyphen. . . . .                              | 537        |
| \lWR@htmclclosecomment: Add \mbox<br>to prevent line breaks. . . . .                    | 372        |
| \lWR@label@createtag: Fix: Line<br>wrap at HTML hyphen. . . . .                         | 527        |
| \lWR@newautoidanchor: Fix: Line<br>wrap at HTML hyphen. . . . .                         | 539        |
| \lWR@printopenlist: Fix: Line wrap<br>at HTML hyphen. . . . .                           | 451        |
| \lWR@startref: Fix: Line wrap at<br>HTML hyphen. . . . .                                | 529        |
| \lWR@subsingledollar: Added SVG<br>math image baseline adjust and<br>em sizing. . . . . | 577        |
| \lWR@subsingledollarsvg: Fix: Line<br>wrap at HTML hyphen. . . . .                      | 575        |
| \captionlistentry: Fix: Line wrap at<br>HTML hyphen. . . . .                            | 543        |
| \hypertoc: Fix: Line wrap at HTML<br>hyphen. . . . .                                    | 551        |
| \hypertocfloat: Fix: Line wrap at<br>HTML hyphen. . . . .                               | 552        |
| General: 2018/01/30 . . . . .                                                           | 1          |
| \adjmulticol: Fix: Line wrap at HTML<br>hyphen. . . . .                                 | 670        |
| \blowup: Added. . . . .                                                                 | 718        |
| \caption: Added. . . . .                                                                | 728        |
| \changepage: Fix for pagecheck<br>macros. . . . .                                       | 736        |
| \endheads: Added. . . . .                                                               | 798        |
| \epigraph: Fix: Line wrap at HTML<br>hyphen. . . . .                                    | 808        |
| \hanging: Fix: Line wrap at HTML<br>hyphen. . . . .                                     | 892        |
| \hang: Fix: Line wrap at HTML<br>hyphen. . . . .                                        | 891        |
| \keyfloat: Fix for SVG math in<br>captions. . . . .                                     | 924        |
| \midpage: Fix: Line wrap at HTML<br>hyphen. . . . .                                     | 1005       |
| \multirow: Fix: Line wrap at HTML<br>hyphen. . . . .                                    | 1020       |
| \multitoc: Added. . . . .                                                               | 1023       |
| \ntheorem: Fix: Line wrap at HTML<br>hyphen. . . . .                                    | 1053       |
| \realscripts: Fix: Line wrap at HTML<br>hyphen. . . . .                                 | 1095       |
| \scrextend: Fix: Line wrap at HTML<br>hyphen. . . . .                                   | 1108       |
| \sectionbreak: Added. . . . .                                                           | 1118       |
| \sidenotes: Fix for SVG math in<br>captions. . . . .                                    | 1126       |
| \subfig: Fix for SVG math in<br>captions. . . . .                                       | 1182       |
| \subfig: Fix: Support \nameref. . . . .                                                 | 1181       |
| \xurl: Added. . . . .                                                                   | 1295       |
| \lwarpmk: pdfcrop: Removed hires<br>option for improved crop<br>accuracy. . . . .       | 332        |
| \lateximage: Added css style option. . . . .                                            | 599        |
| Fix: Line wrap at HTML hyphen. . . . .                                                  | 604        |
| \center: Fix: Line wrap at HTML<br>hyphen. . . . .                                      | 605        |
| \minipage: Fix: Line wrap at HTML<br>hyphen. . . . .                                    | 620        |
| \flushleft: Fix: Line wrap at HTML<br>hyphen. . . . .                                   | 605        |
| \flushright: Fix: Line wrap at HTML<br>hyphen. . . . .                                  | 605        |
| \enumerate: Fix: Line wrap at HTML<br>hyphen. . . . .                                   | 455        |
| \itemize: Fix: Line wrap at HTML<br>hyphen. . . . .                                     | 454        |
| \lWR@BlockClassWP: Fix: Line wrap at<br>HTML hyphen. . . . .                            | 376        |

|               |                                                                                              |
|---------------|----------------------------------------------------------------------------------------------|
| v0.48         | \@@@setcpageref: Fix for new v0.21 of<br>cleveref. .... 773                                  |
|               | \@@@setcref: Fix for new v0.21 of<br>cleveref. .... 772                                      |
|               | \@@@setcrefrange: Fix for new v0.21<br>of cleveref. .... 772                                 |
|               | \@biblabel: Improved bibliography<br>label. .... 562                                         |
|               | \@item: Honors \makelabel. .... 451                                                          |
|               | \@maketitle: Fix: Errors with<br>IEETran class. .... 441                                     |
|               | \LWR@LwarpStart: Adjusted space<br>around captions. .... 428                                 |
|               | \LWR@ProvidesPackageDropB: Fix:<br>Options with braces. .... 261                             |
|               | \LWR@addtabularhrulecolor:<br>colortbl: Added. .... 496                                      |
|               | \LWR@addtabularrulecolors:<br>colortbl: Added. .... 497                                      |
|               | \LWR@closetabledatacell: colortbl:<br>Added. .... 466                                        |
|               | \LWR@lookforpackagename: Fix:<br>Parsing similar package names. . 257                        |
|               | \LWR@newautopagelabel: Fix: toc,<br>LOF, LOT links. .... 395                                 |
|               | \LWR@newhtmlfile: Fix: TOC, LOF, LOT<br>links. .... 410                                      |
|               | \LWR@nullfonts: Fix: \newline in<br>title. .... 565                                          |
|               | \LWR@parsedrequirepackagenames:<br>Fix: Parsing similar package<br>names. .... 256           |
|               | \LWR@parsestablecols: Fix: Ignore<br>optional tabular column<br>arguments. .... 484          |
|               | \LWR@restoreorigformatting: Fix:<br>Spacing in SVG math, lateximage,<br>Tikz. .... 563       |
|               | \LWR@section: Fix: toc, LOF, LOT<br>links. .... 420                                          |
|               | \LWR@tabledatasinglecolumntag:<br>colortbl: Added. .... 489                                  |
|               | \LWR@textcurrentfont: Added.<br>Improves font control. .... 633                              |
|               | \centerline: Added. .... 606                                                                 |
|               | \l@part: Adapts to classes without<br>\part. .... 552                                        |
|               | \leftline: Added. .... 606                                                                   |
|               | \mbox: Nullified for HTML. .... 623                                                          |
|               | \rightline: Added. .... 606                                                                  |
|               | \thempfootnote: Removed \itshape. 392                                                        |
| General:      | 2018/02/14 .... 1                                                                            |
|               | acronym: Added. .... 669                                                                     |
|               | acro: Added. .... 666                                                                        |
| chapterbib:   | Added. .... 742                                                                              |
| colortbl:     | Added. .... 484, 495, 777                                                                    |
| fancyref:     | Now directly supported. 826                                                                  |
| graphics:     | Fix: Virtual page size<br>limited to a group. .... 884, 885                                  |
| hypcap:       | Added. .... 896                                                                              |
| hypernat:     | Added. .... 896                                                                              |
| hyperref:     | \texorpdfstring now<br>uses the TeX string. .... 905                                         |
| luatodonotes: | Improved<br>\todototoc. .... 964                                                             |
| siunitx:      | Changes fraction to<br>symbol. .... 1142                                                     |
| siunitx:      | Improved svg math. 1139, 1141                                                                |
| siunitx:      | Improved color output. 1139                                                                  |
| stfloats:     | Added. .... 1179                                                                             |
| todonotes:    | Improved<br>\todototoc. .... 1245                                                            |
| vmargin:      | Added. .... 1265                                                                             |
| xfrac:        | Fix: Added groups around<br>super/subscripts to localize<br>\LWR@nestspan changes. .... 1287 |
| Docs:         | Converting an existing<br>document. .... 102                                                 |
|               | Improved font control. .... 633, 634                                                         |
| tabular:      | colortbl: Added. .... 519                                                                    |
| abstract:     | Allow optional name. .... 443                                                                |
| v0.49         |                                                                                              |
|               | \LWR@addtabularcellcolor: xcolor:<br>Added tabular row colors. .... 498                      |
|               | \LWR@domulticolumn: xcolor: Added<br>tabular row colors. .... 505                            |
|               | \LWR@href: Fix: Adapt to classes. . 533                                                      |
|               | \LWR@printlength: Fix: Group<br>printlen changes. .... 255                                   |
|               | \LWR@url: Fix: Adapt to classes. .... 534                                                    |
|               | \affiliation: Fix: Adapts to classes<br>which already provide. .... 435                      |
|               | \noalign: Fix: \noalign inside<br>tabular. .... 516                                          |
| General:      | 2018/02/19 .... 1                                                                            |
|               | amsmath: Fix: Patches for \eqref. 677                                                        |
|               | eso-pic: Fix for<br>\AddToShipoutPicture. .... 814                                           |
|               | figsize: Added. .... 837                                                                     |
|               | fnlineno: Added. .... 851                                                                    |
|               | hypdestopt: Added. .... 896                                                                  |
|               | hyphenat: Added. .... 907                                                                    |
|               | lineno: Added. .... 944                                                                      |
|               | luacolor: Added. .... 961                                                                    |
|               | pagegrid: Added. .... 1063                                                                   |
|               | pdfrender: Added. .... 1077                                                                  |
|               | resizegather: Added. .... 1102                                                               |
|               | verbbars: Added. .... 1265                                                                   |
|               | vwcol: Added. .... 1267                                                                      |

|                                                                   |           |                                                                                    |                 |
|-------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------|-----------------|
| xcolor: Added tabular row colors.                                 | 484, 1282 | siunitx: Improved units.                                                           | 609, 1139, 1142 |
| Fix: Adapt to classes.                                            | 640       | xy: Added.                                                                         | 1296            |
| <b>v0.50</b>                                                      |           | <b>lwarpmk:</b> Error if <i>lateximages.txt</i> does not exist.                    | 332             |
| \@ensuredmath: Fix: Use <i>lateximage</i> even if MATHJAX.        | 581       | <b>lwarpmk:</b> Error if <i>lwarpmk.conf</i> points to <i>l warp</i> .             | 332             |
| Improved SVG math alt tags.                                       | 581       | <b>lwarpmk:</b> Improved error messages.                                           | 332             |
| \LWR@footnotetext: Robustify macros.                              | 390       | <b>lwarpmk:</b> MD5 hash avoids duplicate SVG math.                                | 332             |
| \LWR@atbeginverbatim: Improved column alignment.                  | 447       | <b>lwarpmk:</b> Multiprocess support making <i>lateximages</i> .                   | 332             |
| \LWR@doequation: Improved SVG math display.                       | 587       | AMS environments: Improved SVG math display.                                       | 678             |
| \LWR@doubledollar: Improved SVG math alt tags.                    | 579       | Fix: Load <i>fontspec</i> if necessary.                                            | 249             |
| Improved SVG math display.                                        | 579       | Robustify macros.                                                                  | 634             |
| \LWR@htmlrefsectionfilename: Fix: SVG math in a section name.     | 361       | <b>lateximage:</b> Fix: SVG math in a section name.                                | 602             |
| \LWR@newhtmlfile: Fix: SVG math in a section name.                | 410       | MD5 hash avoids duplicate SVG math.                                                | 600, 604        |
| \LWR@nullfonts: Fix: \underline in sectioning file name.          | 567       | <b>eqnarray:</b> Improved SVG math display.                                        | 593             |
| \LWR@overline: Added.                                             | 638       | <b>v0.51</b>                                                                       |                 |
| \LWR@subsingledollar: Fix: Use <i>lateximage</i> even if MATHJAX. | 577       | \@ensuredmath: Hashes                                                              |                 |
| Improved SVG math alt tags.                                       | 577       | \ensuremath.                                                                       | 581             |
| \LWR@subsingledollarsvg: MD5 hash avoids duplicate SVG math.      | 575       | \@item: Restored list label space.                                                 | 453             |
| \LWR@vspace: Robustify macros.                                    | 644       | \LWR@HTMLsanitizeexpand: Fix: Escapes double quotes.                               | 403             |
| \newline: Robustify macros.                                       | 641       | \LWR@l warp Start: MathJax: Nullifies                                              |                 |
| \textsubscript: Robustify macros.                                 | 637       | \ensuremath.                                                                       | 430             |
| \textsuperscript: Robustify macros.                               | 637       | \LWR@addbaselinemarker: Improved                                                   |                 |
| General: 2018/03/03                                               | 1         | SVG math baseline.                                                                 | 570             |
| \l warp.css: Improved SVG display math centering.                 | 285       | \LWR@atbeginverbatim: Adds vertical offset.                                        | 446             |
| \l warp_one_limage.txt: Added.                                    | 328       | \LWR@doequation: Fix: \addcontentsline inside SVG math. Provides an autoid anchor. | 587             |
| amsmath: Fix: Upright tags for SVGmath.                           | 677       | \l warpmk: Fix: \addcontentsline inside SVG math. Provides an autoid anchor.       | 579             |
| axodraw2: Added.                                                  | 702       | \l WR@findcurrenttextcolor: Added                                                  |                 |
| bytefield: Added.                                                 | 727       | \l WR@findcurrenttextcolor when no xcolor.                                         | 638             |
| dblfloatfix: Added.                                               | 784       | \l WR@newautoidanchor: Fix: No autoid is inside a <i>lateximage</i> .              | 539             |
| diagbox: Added.                                                   | 786       | \l WR@singledollarmeasure: Fix: lateximage inside <i>\mathcal{M}</i> \text.        | 572             |
| epstopdf: Added.                                                  | 809       | Fix: Honors text font around SVG math.                                             | 572             |
| listings: Force flexible columns.                                 | 947       | Improved SVG math baseline.                                                        | 573             |
| morefloats: Added.                                                | 1011      | Typeset SVG math only once during measurement.                                     | 572             |
| nonfloat: Added.                                                  | 1047      | \l WR@subHTMLsanitize: Fix: Escapes double quotes.                                 | 402             |
| ntheorem: Fix: Not standard nor amsthm selected.                  | 1056      | \l WR@subsingledollar: Fix: \ensuredmath inside SVG image.                         | 577             |
| pbox: Added.                                                      | 1071      |                                                                                    |                 |
| phfqt: Added.                                                     | 1080      |                                                                                    |                 |
| schemata: Added.                                                  | 1108      |                                                                                    |                 |
| siunitx: Fix: Loads xcolor.                                       | 1139      |                                                                                    |                 |
| siunitx: Improved SVG math alt tags.                              | 1141      |                                                                                    |                 |

|                                                                                                                              |      |
|------------------------------------------------------------------------------------------------------------------------------|------|
| \LWR@subsingledollarsvg: Fix: svg<br>math with enclosed <i>lateximage</i> . . . . .                                          | 574  |
| SVG math baseline improved with<br>invisible rule at corner. . . . .                                                         | 576  |
| \LWR@textcurrentcolor: <i>xcolor</i> :<br>\textcurrentcolor if <i>xcolor</i><br>not loaded. . . . .                          | 638  |
| \addcontentsline: Add missing<br>support for float mechanism if<br>necessary. . . . .                                        | 544  |
| No anchor ID if inside SVG image. . . . .                                                                                    | 544  |
| \displaymathnormal: Processing for<br>complicated display math. . . . .                                                      | 590  |
| \displaymathother: Processing for<br>complicated display math. . . . .                                                       | 590  |
| General: 2018/03/24 . . . . .                                                                                                | 1    |
| MATHJAX: Nullifies \ensuremath. . . . .                                                                                      | 405  |
| l warp_one_limage.txt: <i>pdftocairo</i><br>-noshrink added. . . . .                                                         | 328  |
| afterpackage: No longer required. . . . .                                                                                    | 253  |
| chemfig: Added. . . . .                                                                                                      | 742  |
| chemformula: Added. . . . .                                                                                                  | 744  |
| chemgreek: Added. . . . .                                                                                                    | 749  |
| chemmacros: Added. . . . .                                                                                                   | 750  |
| chemnum: Added. . . . .                                                                                                      | 768  |
| epstopdf-base: Added. . . . .                                                                                                | 810  |
| fancybox: Fix: Optional tag for<br>\item in a span. . . . .                                                                  | 823  |
| grid: Added. . . . .                                                                                                         | 889  |
| listings: Forces cleared options. . . . .                                                                                    | 948  |
| ltxgrid: Added. . . . .                                                                                                      | 960  |
| mhchem: Added. . . . .                                                                                                       | 1002 |
| tikz: Fix for \tikz macro. . . . .                                                                                           | 1221 |
| tikz: Fix for tikz with optional<br>argument. . . . .                                                                        | 1221 |
| titling: Fix for \thanks mark. . . . .                                                                                       | 1231 |
| l warpmk: <i>pdfcrop</i> : Restored hires<br>option. . . . .                                                                 | 332  |
| l warpmk: <i>pdftocairo</i> -noshrink<br>added. . . . .                                                                      | 332  |
| AMS environments: Fix:<br>\addcontentsline inside SVG<br>math. Provides an autoid anchor. . . . .                            | 678  |
| Docs: tikz limitations. . . . .                                                                                              | 168  |
| Docs: Multiple authors and<br>affiliations. . . . .                                                                          | 139  |
| Docs: Things to avoid. . . . .                                                                                               | 127  |
| Docs: Updated Converting an<br>existing document. . . . .                                                                    | 102  |
| Fix: Remember original \# in case<br>is redefined. . . . .                                                                   | 274  |
| Named HTML entity used for text<br>dollar. . . . .                                                                           | 570  |
| lateximage: Added additional<br>hashing option. . . . .                                                                      | 599  |
| Fix: <i>lateximage</i> inside <i>AMS</i><br>\text. . . . .                                                                   | 599  |
| Processing for complicated display<br>math. . . . .                                                                          | 602  |
| alignat: <i>amsmath</i> : Fix: Added. . . . .                                                                                | 681  |
| eqnarray: Fix: \addcontentsline<br>inside SVG math. Provides an<br>autoid anchor. . . . .                                    | 593  |
| \LWR@displaymathother: Processing<br>for complicated display math. . . . .                                                   | 582  |
| \LWR@equationother: Processing for<br>complicated display math. . . . .                                                      | 582  |
| v0.52                                                                                                                        |      |
| \@ensuredmath: Improved hashing<br>expansion. . . . .                                                                        | 581  |
| \@mpfootnotetext: Fix: Paragraph<br>handling. . . . .                                                                        | 392  |
| \CustomizeMathJax: Added. . . . .                                                                                            | 405  |
| \l WR@addbaselinemarker: Warnings<br>if l warp_baseline_marker.png is<br>not present or if graphicx/s not<br>loaded. . . . . | 570  |
| \l WR@customizedMathJax: Added. . . . .                                                                                      | 404  |
| \l WR@doequation: Fix: equation*<br>now based on equation instead of<br>displaymath. . . . .                                 | 587  |
| Fix: equation* with split. . . . .                                                                                           | 586  |
| \l WR@filenamenoblocks: Fix:<br>\FileDepth with non-utf8<br>encoding. . . . .                                                | 401  |
| \l WR@href: Fix: #, %, &, ^, _ in URL. . . . .                                                                               | 533  |
| \l WR@nolinkurl: Fix: #, %, &, ^, _ in<br>URL. . . . .                                                                       | 534  |
| \l WR@nullfonts: Fix:<br>\texorpdfstring in section<br>names. . . . .                                                        | 567  |
| \l WR@section: Fix: Footnote<br>numbering: Limited HTML<br>comment if starred. . . . .                                       | 417  |
| Fix: Footnote numbering: Use short<br>toc entry for HTMLDebug<br>comments. . . . .                                           | 417  |
| \l WR@singledollarmeasure: Added<br>user-adjustable SVG math font<br>scaling. . . . .                                        | 573  |
| \l WR@url: Fix: #, %, &, ^, _ in URL. . . . .                                                                                | 534  |
| \LateximageFontSizeScale: Added<br>user-adjustable SVG math font<br>scaling. . . . .                                         | 596  |
| \theHTMLTitleSeparator: Fix:<br>\FileDepth with non-utf8<br>encoding. . . . .                                                | 423  |
| General: 2018/04/01 . . . . .                                                                                                | 1    |
| breakurl: Fix: #, %, &, ^, _ in URL. . . . .                                                                                 | 723  |
| endfloat: Updated for v2.6. . . . .                                                                                          | 797  |

|                                                     |                                                                         |          |
|-----------------------------------------------------|-------------------------------------------------------------------------|----------|
| fancybox:                                           | Initial support for<br>\VerbatimFootnotes. . . . .                      | 820      |
| fancyvrb:                                           | Initial support for<br>\VerbatimFootnotes. . . . .                      | 828      |
| graphics:                                           | Added defaults. . . . .                                                 | 878, 879 |
| graphics:                                           | Updated for v1.1a. . . . .                                              | 879      |
| graphics:                                           | Updated for v1.1b. . . . .                                              | 879      |
| hyperref:                                           | Fix: #, %, &, ~, _ in<br>URL. . . . .                                   | 901–903  |
| nicefrac:                                           | Added. . . . .                                                          | 1042     |
| url:                                                | Added. . . . .                                                          | 1261     |
| <i>lwarpmk</i> :                                    | Fix: Memory overflow<br>when spawning tasks. . . . .                    | 332      |
| <i>lwarpmk</i> :                                    | Fix: Skip image<br>generation if from page 0. . . . .                   | 332      |
|                                                     | Changed FootnoteDepth default to<br>\subsubsection. . . . .             | 388      |
| Docs:                                               | Improved install instructions. . . . .                                  | 83       |
| Fix:                                                | MATHJAX script line wraps.<br>Reduced right margin. . . . .             | 250      |
| If pdfLaTeX, allow other input<br>encoding. . . . . | 231                                                                     |          |
| Restore \kill in a lateximage. . . . .              | 958                                                                     |          |
| tabbing:                                            | Fix to allow inside<br>lateximage. . . . .                              | 448      |
| lateximage:                                         | Fix for hash expansion. . . . .                                         | 601      |
| v0.53                                               |                                                                         |          |
| General:                                            | 2018/04/01 . . . . .                                                    | 1        |
| <i>lwarpmk</i> :                                    | Added<br><i>lwarpmk cleanimages</i> . . . . .                           | 332      |
| <i>lwarpmk</i> :                                    | Added warning for<br>corrupted images. . . . .                          | 332      |
| Docs:                                               | <i>lwarpmk cleanimages</i> . . . . .                                    | 99       |
| Docs:                                               | <i>lwarpmk pdftohtml</i> . . . . .                                      | 99       |
| v0.54                                               |                                                                         |          |
| \@xdlbfloating:                                     | Honor \centering, etc.<br>in floats. . . . .                            | 538      |
| \LWR@afterendverbatim:                              | Added<br>vspace argument. . . . .                                       | 447      |
| \LWR@atbeginverbatim:                               | Improved<br>column alignment. . . . .                                   | 447      |
| \LWR@endfloatalignment:                             | Honor<br>\centering, etc. in floats. . . . .                            | 540      |
| \LWR@floatalignment:                                | Honor<br>\centering, etc. in floats. . . . .                            | 540      |
| \LWR@floatend:                                      | Honor \centering,<br>etc. in floats. . . . .                            | 538      |
| \LateximageFontSizeName:                            | Defaults<br>to normalsize. . . . .                                      | 596      |
| \centering:                                         | Added debug comment. . . . .                                            | 605      |
| \raggedleft:                                        | Added debug<br>comment. . . . .                                         | 606      |
| \raggedright:                                       | Added debug<br>comment. . . . .                                         | 606      |
| General:                                            | 2018/04/22 . . . . .                                                    | 1        |
| *.lwarpmkconf:                                      | Option<br>IndexLanguage changed to<br>xindyLanguage. . . . .            | 284      |
| *.lwarpmkconf:                                      | Option<br>pdftotextEnc added. . . . .                                   | 284      |
| *.lwarpmkconf:                                      | Option<br>xidyFilename changed to<br>xindyStyle. . . . .                | 284      |
| *.lwarpmkconf:                                      | Option<br>xindyCodepage added. . . . .                                  | 284      |
| lwarf.css:                                          | Fix:<br>Text-decoration-skip: auto. . . . .                             | 285      |
| lwarpmk.conf:                                       | Option<br>IndexLanguage changed to<br>xindyLanguage. . . . .            | 284      |
| lwarpmk.conf:                                       | Option<br>pdftotextEnc added. . . . .                                   | 284      |
| lwarpmk.conf:                                       | Option<br>xidyFilename changed to<br>xindyStyle. . . . .                | 284      |
| lwarpmk.conf:                                       | Option<br>xindyCodepage added. . . . .                                  | 284      |
| bibunits:                                           | Added. . . . .                                                          | 715      |
| chngpage:                                           | Added. . . . .                                                          | 769      |
| forest:                                             | Added. . . . .                                                          | 859      |
| glossaries:                                         | Fix when not using<br>babel or polyglossia. . . . .                     | 875      |
| gridset:                                            | Added. . . . .                                                          | 890      |
| hyperref:                                           | Fix: \ref in \hyperref<br>and \hyperlink caused nested<br>link. . . . . | 903      |
| <i>lwarf-patch-memoir</i> :                         | Update for<br>v3.7g. . . . .                                            | 1307     |
| magaz:                                              | Added. . . . .                                                          | 968      |
| ragged2e:                                           | Fix: \centering, etc. . . . .                                           | 1095     |
| textcomp:                                           | Fix for<br>\textruphousand. . . . .                                     | 1206     |
| tikz:                                               | Fixes for \pgfpicture,<br>minipages, fit, align, font. . . . .          | 1221     |
| <i>lwarpmk</i> :                                    | Added pdftotextenc. . . . .                                             | 332      |
| <i>lwarpmk</i> :                                    | Added xindycodepage. . . . .                                            | 332      |
| <i>lwarpmk</i> :                                    | Changed language to<br>xindylanguage. . . . .                           | 332      |
| <i>lwarpmk</i> :                                    | Changed xdyfile to<br>xindystyle. . . . .                               | 332      |
| <i>lwarpmk</i> :                                    | Improved error if<br>configuration file does not exist. . . . .         | 332      |
| <i>lwarpmk</i> :                                    | Increased prominence for<br>error for an unknown command. . . . .       | 332      |
| <i>lwarpmk</i> :                                    | Verifies HTML version<br>exists before lwarpmk limages. . . . .         | 332      |

|                                                                                   |           |
|-----------------------------------------------------------------------------------|-----------|
| <i>lwarpmk</i> : Verifies image references before <i>lwarpmk</i> images. . . . .  | 332       |
| Add: pdftotextEnc. . . . .                                                        | 242       |
| Add: xindyCodepage. . . . .                                                       | 242       |
| Added early check for disallowed packages. . . . .                                | 217       |
| Docs: BibTeX. . . . .                                                             | 141       |
| Docs: Macros in sectioning names. . . . .                                         | 127       |
| Never load <i>aecompl</i> . . . . .                                               | 217       |
| Option <i>IndexLanguage</i> changed to <i>xindyLanguage</i> . . . . .             | 242       |
| Option <i>xdyFilename</i> changed to <i>xindyStyle</i> . . . . .                  | 242       |
| verse: Fix: Line spacing. . . . .                                                 | 445       |
| <b>v0.55</b>                                                                      |           |
| \@xdlbfloa: Fix: Float optional args. . . . .                                     | 538       |
| \lWR@lwarpmStart: Fix: Overfull boxes in <i>lateximages</i> . . . . .             | 428       |
| \lWR@nullfonts: Removed extraneous space which appeared in file links. . . . .    | 567       |
| \lWR@phantomsection: Fix: \ForceHTMLTOC with \phantomsection. . . . .             | 647       |
| General: 2018/04/26 . . . . .                                                     | 1         |
| clrdblpg: Added. . . . .                                                          | 775       |
| Fix: \centering, etc. for <i>koma-script</i> . . . . .                            | 537       |
| Fix: QED symbols in <i>lateximage</i> . . . . .                                   | 685, 1060 |
| <b>v0.56</b>                                                                      |           |
| \lWR@addcdashline: <i>arydshln</i> : Added. . . . .                               | 494       |
| \lWR@addmulticolvertrulecolor: Adds support for dashed vertical rules. . . . .    | 502       |
| Adds support for double vertical rules. . . . .                                   | 502       |
| \lWR@addtabularhrulecolor: Adds support for <i>arydshln</i> dashed rules. . . . . | 496       |
| Adds support for double \hlines and \midrules. . . . .                            | 496       |
| \lWR@addtabularrulecolors: Adds support for dashed vertical rules. . . . .        | 497       |
| Adds support for double vertical rules. . . . .                                   | 497       |
| \lWR@closeparagraph: Added support for <i>parnotes</i> . . . . .                  | 380       |
| \lWR@domulticolumn: Adds support for dashed vertical rules. . . . .               | 504       |
| Adds support for double vertical rules. . . . .                                   | 504       |
| \lWR@floatbegin: Adds a <class> per float package style. . . . .                  | 537       |
| \lWR@openparagraph: Added support for <i>parnotes</i> . . . . .                   | 379       |
| \lWR@parsebarcolumn: Adds support for double vertical rules. . . . .              | 474       |
| \lWR@parsecoloncolumn: <i>arydshln</i> : Added. . . . .                           | 475       |
| \lWR@parsesemicoloncolumn: <i>arydshln</i> : Added. . . . .                       | 476       |
| \lWR@tabledatacolumntag: Fix: \morecmidrules . . . . .                            | 514       |
| \lWR@textcurrentfont: Added span. <i>textbf</i> , etc. . . . .                    | 633       |
| General: 2018/05/12 . . . . .                                                     | 1         |
| *.lwarpmkconf: Records --shell-escape. . . . .                                    | 284       |
| lwarpm.css: Added div. <i>textbf</i> , etc. . . . .                               | 285       |
| lwarpm.css: Added span. <i>textbf</i> , etc. . . . .                              | 285       |
| lwarpmk.conf: Records --shell-escape. . . . .                                     | 284       |
| arydshln: Added. . . . .                                                          | 460, 690  |
| lua-check-hyphen: Added. . . . .                                                  | 960       |
| paralist: Fixes for compactenum, compactitem, compactdesc. . . . .                | 1064      |
| parnotes: Added. . . . .                                                          | 1069      |
| quoting: Added. . . . .                                                           | 1094      |
| tocenter: Added. . . . .                                                          | 1237      |
| underscore: Added. . . . .                                                        | 1255      |
| <i>lwarpmk</i> : Added lwarpmk pdftosvg. . . . .                                  | 332       |
| <i>lwarpmk</i> : Supports --shell-escape. . . . .                                 | 332       |
| Added \thinspace. . . . .                                                         | 639       |
| Added array W column. . . . .                                                     | 481       |
| Docs: <i>lwarpmk pdftosvg</i> . . . . .                                           | 99        |
| \lWR@blocktextcurrentfont: Added div. <i>textbf</i> , etc. . . . .                | 634       |
| <b>v0.57</b>                                                                      |           |
| \BlockClassSingle: Improved print/HTML output selection. . . . .                  | 375       |
| \InlineClass: Improved print/HTML output selection. . . . .                       | 375       |
| \lWR@href: Fix: Text catcodes. . . . .                                            | 533       |
| \lWR@listof: Fix: Provide \l@name if not defined. . . . .                         | 548       |
| \lWR@singledollarmeasure: Fix: Dynamic inline math expressions. . . . .           | 572       |
| \lWR@subhyperref: Fix: Text catcodes. . . . .                                     | 533       |
| \lWR@subhyperreftext: Fix: Text catcodes. . . . .                                 | 533       |
| \lWR@subsingledollar: Fix: Dynamic inline math expressions. . . . .               | 577       |

|                                       |          |
|---------------------------------------|----------|
| \LWR@subsingledollarsvg: Fix:         |          |
| Dynamic inline math expressions.      | 575      |
| \LWR@vspace: Improved print/HTML      |          |
| output selection.                     | 644      |
| \MathImageAltText: Added.             | 568      |
| \PackageDiagramAltText: Added.        | 569      |
| \StartDefiningMath: Added.            | 356      |
| \boxframe: xcolor: Fix: Colored       |          |
| \boxframe.                            | 1282     |
| \colorbox: xcolor: New system for     |          |
| switching print and HTML              |          |
| outputs.                              | 1279     |
| \colorboxBlock: xcolor: New system    |          |
| for switching print and HTML          |          |
| outputs.                              | 1279     |
| \fboxBlock: Improved print/HTML       |          |
| output selection.                     | 626      |
| \fcolorbox: xcolor: New system for    |          |
| switching print and HTML              |          |
| outputs.                              | 1280     |
| \framebox: Improved print/HTML        |          |
| output selection.                     | 625      |
| \inlinemathother: Added.              | 357      |
| \makebox: Improved print/HTML         |          |
| output selection.                     | 624      |
| \mbox: Improved print/HTML output     |          |
| selection.                            | 623      |
| \multicolumnrow: multirow:            |          |
| Improved print/HTML output            |          |
| selection.                            | 1022     |
| Improved print/HTML output            |          |
| selection.                            | 510      |
| \newfloat: rotfloat: Added float      |          |
| styles.                               | 1106     |
| rotfloat: Fix for listof sideways     |          |
| floats.                               | 1106     |
| \parbox: Improved print/HTML          |          |
| output selection.                     | 623      |
| \raisebox: Improved print/HTML        |          |
| output selection.                     | 628      |
| \reflectbox: Improved print/HTML      |          |
| output selection.                     | 888      |
| \resizebox: Improved print/HTML       |          |
| output selection.                     | 888      |
| \rotatebox: Improved print/HTML       |          |
| output selection.                     | 886      |
| \rule: Fix: Colored rules.            | 646      |
| \scalebox: Improved print/HTML        |          |
| output selection.                     | 887      |
| \textcolor: xcolor: New system for    |          |
| switching print and HTML              |          |
| outputs.                              | 1278     |
| General: 2018/06/06                   | 1        |
| MATHJAX: Supports \footnote,          |          |
| \footnotemark.                        | 405      |
| \l warp.css: Added ruled, boxed,      |          |
| boxruled floats.                      | 285      |
| \l warp.css: Increased float vertical |          |
| margins.                              | 285      |
| algorithm2e: Added.                   | 671      |
| bigdelim: Improved print/HTML         |          |
| output selection.                     | 716      |
| breakurl: Fix: Text catcodes.         | 723      |
| colortbl: New system for switching    |          |
| print and HTML outputs.               | 777, 778 |
| ellipsis: Added \midwordellipsis.     | 796      |
| errata: Added.                        | 812      |
| float: Added float styles.            | 842      |
| float: Fix: Do not pre-define         |          |
| \l e name.                            | 842      |
| \tablex: Added.                       | 959      |
| marginnote: Fix: Long optional        |          |
| argument.                             | 972      |
| multirow: Improved print/HTML         |          |
| output selection.                     | 1020     |
| register: Added.                      | 1099     |
| subcaption: Fix: \subref.             | 902      |
| trimclip: Added.                      | 1248     |
| vowel: Added.                         | 1266     |
| xellipsis: Added.                     | 1284     |
| xfrac: Improved print/HTML            |          |
| \scalebox control.                    | 1287     |
| \xtabular: Added.                     | 1288     |
| \xpiano: Added.                       | 1290     |
| \l warpmk: Improved code factoring.   | 332      |
| \l warpmk: Improved error handling.   | 332      |
| Docs: Recompiling \l warpmk or css    |          |
| files.                                | 199      |
| Docs: Recreating the index for        |          |
| \l warp source.                       | 197      |
| New system for switching print and    |          |
| HTML outputs.                         | 267      |
| \minipage: Improved print/HTML        |          |
| output selection.                     | 620      |
| \BlockClass: Improved print/HTML      |          |
| output selection.                     | 375      |
| \fminipage: Improved print/HTML       |          |
| output selection.                     | 626      |
| \LWR@BlockClassWP: Improved           |          |
| print/HTML output selection.          | 376      |
| v0.58                                 |          |
| \LWR@HTML@caption@begin: Improved     |          |
| print/HTML output selection.          | 542      |
| \LWR@HTML@caption@end: Improved       |          |
| print/HTML output selection.          | 543      |
| \LWR@HTML@ref: Improved print/HTML    |          |
| output selection.                     | 530      |
| \LWR@doindexentrysubsub: Adds         |          |
| support for \see, \seealso,           |          |
| \emph, \textbf, etc.                  | 558      |

|                              |                                                                                                             |      |
|------------------------------|-------------------------------------------------------------------------------------------------------------|------|
| \LWR@hyperindexrefnullified: | Added support for \see, \seealso, \emph, \textbf, etc.                                                      | 559  |
| \LWR@hyperindexrefsubtwo:    | Added support for \see, \seealso, \emph, \textbf, etc.                                                      | 560  |
| \LWR@indexitem:              | Accepts optional arg for <code>repeatindex</code> .                                                         | 554  |
| \dotfill:                    | Improved print/HTML output selection.                                                                       | 641  |
| \hfill:                      | Improved print/HTML output selection.                                                                       | 640  |
| \hrulefill:                  | Improved print/HTML output selection.                                                                       | 640  |
| \printindex:                 | Fix: Extra \newpage to flush pending \index writes.                                                         | 969  |
| General:                     | 2018/07/07                                                                                                  | 1    |
| *.\lwarpmkconf:              | Added option <code>makeindexstyle</code> .                                                                  | 284  |
| *.\lwarpmkconf:              | Added options <code>makeindex</code> and <code>xindy</code> .                                               | 284  |
| *.\lwarpmkconf:              | Generated \AtBeginDocument.                                                                                 | 284  |
| \lwarpxdy:                   | Requires <code>makeindex.xdy</code> .                                                                       | 327  |
| \lwarpxdy:                   | Supports bold, italic.                                                                                      | 327  |
| \lwarpmk.html.list:          | Added.                                                                                                      | 326  |
| \lwarpmk.conf:               | Added option <code>makeindexstyle</code> .                                                                  | 284  |
| \lwarpmk.conf:               | Added options <code>makeindex</code> and <code>xindy</code> .                                               | 284  |
| \lwarpmk.conf:               | Generated \AtBeginDocument.                                                                                 | 284  |
| array:                       | Improved print/HTML output selection.                                                                       | 689  |
| attachfile2:                 | Added.                                                                                                      | 695  |
| attachfile:                  | Added.                                                                                                      | 694  |
| cases:                       | Added.                                                                                                      | 733  |
| imakeidx:                    | Added.                                                                                                      | 910  |
| index:                       | Added.                                                                                                      | 914  |
| intopdf:                     | Added.                                                                                                      | 916  |
| \lwarppatch-komascript:      | Modified indexing.                                                                                          | 1299 |
| \lwarppatch-memoir:          | Fix for \specialindex.                                                                                      | 1324 |
| \lwarppatch-memoir:          | Fix for multiple indexes.                                                                                   | 1325 |
| makeidx:                     | Added. Moved from \lwarppatch-komascript core.                                                              | 969  |
| memoir:                      | Fix for \firsthline, \lasthline.                                                                            | 511  |
| memoir:                      | Fix for booktabs.                                                                                           | 516  |
| \pdfpages:                   | Added.                                                                                                      | 1075 |
| \pdfx:                       | Added.                                                                                                      | 1079 |
| \repeatindex:                | Added.                                                                                                      | 1102 |
| splitidx:                    | Added.                                                                                                      | 1163 |
| \textcomp:                   | Improved print/HTML output selection.                                                                       | 1206 |
| \lwarpmk:                    | Added <code>makeindex</code> and <code>xindy</code> options.                                                | 332  |
| \lwarpmk:                    | Added -p option for project name.                                                                           | 332  |
| \lwarpmk:                    | Added optional list of names for \lwarpmk <code>printindex</code> and /cmdslwarpmk <code>htmlindex</code> . | 332  |
| \lwarpmk:                    | Glossary generation now uses <code>makeglossaries</code> .                                                  | 332  |
| \lwarpmk:                    | \lwarpmk <code>clean</code> removes all *.ind and *.idx files.                                              | 332  |
| Added:                       | <code>makeindex</code> option.                                                                              | 244  |
| Added:                       | <code>xindy</code> option.                                                                                  | 244  |
| Added:                       | <code>option</code> <code>makeindexStyle</code> .                                                           | 242  |
| Docs:                        | Index, <code>makeindex</code> , <code>imakeidx</code> .                                                     | 143  |
| Docs:                        | Misplaced \omit.                                                                                            | 203  |
| Fix:                         | <code>memoir</code> and <code>ccaption</code> .                                                             | 220  |
| Improved:                    | print/HTML output selection.                                                                                | 639  |
| Replaced:                    | each \csuse with \nameuse to force error if undefined.                                                      | 1    |
| tabbing:                     | Improved print/HTML output selection.                                                                       | 448  |
| v0.59                        |                                                                                                             |      |
| \LWR@addbaselinemarker:      | Uses .eps if DVI <code>latex</code> .                                                                       | 570  |
| \LWR@latexmkcmd:             | Fix: --shell-escape with <code>latexmk</code> .                                                             | 279  |
| \LWR@writeconf:              | Compilation commands now preassigned by \lwarppatch instead of being computed by \lwarpmk.                  | 283  |
| \[:                          | Fix with \displaymathnormal.                                                                                | 581  |
| General:                     | 2018/09/07                                                                                                  | 1    |
| \Slunits:                    | Added.                                                                                                      | 1129 |
| \accsupp:                    | Added.                                                                                                      | 666  |
| \amsmath:                    | Moved from the \lwarppatch core.                                                                            | 677  |
| \asymptote:                  | Added.                                                                                                      | 693  |
| \axessibility:               | Added.                                                                                                      | 701  |
| \breqn:                      | Added.                                                                                                      | 724  |
| \bxpapersize:                | Added.                                                                                                      | 726  |
| \canoniclayout:              | Added.                                                                                                      | 728  |
| \chemformula:                | Fix for \NMR.                                                                                               | 765  |
| \draftcopy:                  | Added.                                                                                                      | 790  |
| \epstopdf-base:              | Improved.                                                                                                   | 810  |
| \epstopdf:                   | Improved.                                                                                                   | 809  |
| \fnbreak:                    | Added.                                                                                                      | 850  |
| \graphics:                   | Fix: Expand filename.                                                                                       | 884  |
| \graphics:                   | Now works with .pdf and .eps filename extensions.                                                           | 884  |

|                                   |                                                                           |           |
|-----------------------------------|---------------------------------------------------------------------------|-----------|
| nccfancyhdr:                      | Added.                                                                    | 1029      |
| pdftricks:                        | Added.                                                                    | 1078      |
| pst-eps:                          | Added.                                                                    | 1090      |
| pstricks:                         | Added.                                                                    | 1091      |
| units:                            | Added support for MathJax.                                                | 1259      |
| xunicode:                         | Added.                                                                    | 1294      |
| <i>lwarpmk</i> :                  | Added                                                                     |           |
|                                   | <i>lwarpmk epstopdf</i> .                                                 | 332       |
| <i>lwarpmk</i> :                  | Consolidated compiling options into printlatexcmd and HTMLLatexcmd.       | 332       |
| <i>lwarpmk</i> :                  | Double instead of single-dashed --shell-escape option.                    | 332       |
| <i>lwarpmk</i> :                  | Error if <i>lwarpmk.conf</i> format changed.                              | 332       |
| <i>lwarpmk</i> :                  | Warning if operating system changed.                                      | 332       |
| Added option dvipdfmx.            | 244                                                                       |           |
| Added option dvipdfm.             | 244                                                                       |           |
| Added option dvips.               | 244                                                                       |           |
| Docs: <i>lwarpmk epstopdf</i> .   | 99                                                                        |           |
| File: <i>l warp_mathjax.txt</i> : | Fix:<br>Removed chapter number from tagged non-numeric MATHJAX equations. | 328       |
| File: <i>l warp_mathjax.txt</i> : | Updated to MATHJAX v2.7.4.                                                | 328       |
| picture:                          | Added an alt tag.                                                         | 616       |
| v0.60                             |                                                                           |           |
| \LWR@clearmidrules:               | tabular: Fix for midrules.                                                | 491       |
| \LWR@parsenormalcolumn:           | tabular: Improved memory management:<br>Not using <i>xstring</i> .        | 476       |
| \LWR@tabledatausinglecolumntag:   | tabular: Improved memory management: Not using <i>xstring</i> .           | 488, 489  |
| \LWR@tabularendofline:            | Fix:<br>Slowdown for long tables.                                         | 470       |
| General: 2018/09/19               |                                                                           | 1         |
| tabular:                          | Improved memory management: Global boolean.                               | 461       |
| tabular:                          | Improved memory management: Not using <i>xstring</i> .                    | 463, 1020 |
| 2up:                              | Added.                                                                    | 660       |
| booklet:                          | Added.                                                                    | 719       |
| bophook:                          | Added.                                                                    | 722       |
| diagbox:                          | Fix for par tags.                                                         | 787       |
| draftfigure:                      | Added.                                                                    | 790       |
| fancytabs:                        | Added.                                                                    | 827       |
| fullminipage:                     | Added.                                                                    | 865       |
| grid-system:                      | Added.                                                                    | 890       |
| layaureo:                         | Added.                                                                    | 933       |
| leading:                          | Added.                                                                    | 936       |
| listings:                         | Fix for HTML entities.                                                    | 948       |
| listings:                         | Fix if inside a list.                                                     | 950, 953  |
| thumbs:                           | Added.                                                                    | 1220      |
| thumb:                            | Added.                                                                    | 1220      |
| widows-and-orphans:               | Added.                                                                    | 1270      |
| v0.61                             |                                                                           |           |
| \DeclareGraphicsExtensions:       | Fix:<br>EPS for DVI LATEX.                                                | 876       |
| \LWR@HTMLLatexCmd:                | Added<br>HTMLLatexCmd option.                                             | 283       |
| Added PrintLatexCmd option.       | 283                                                                       |           |
| \LWR@addcompilecmd:               | Removed<br>spaces.                                                        | 279       |
| \LWR@closetabledatacell:          | Fix: Par tags in tabular.                                                 | 465       |
| \LWR@hyperindexrefnullified:      | Made robust.                                                              | 559       |
| \LWR@listof:                      | Fix: newfloat lists.                                                      | 548       |
| \LWRopseq:                        | Added spaces.                                                             | 239       |
| \RequirePackage:                  | Support up to 20 packages.                                                | 258       |
| \inlinemathnormal:                | Changed name<br>from \StopDynamicMath to \inlinemathnormal.               | 357       |
| \inlinemathother:                 | Changed name<br>from \StartDynamicMath to \inlinemathother.               | 357       |
| \lwarpsetup:                      | Added.                                                                    | 240       |
| General: 2018/10/13               |                                                                           | 1         |
| lwarp.css:                        | Footnotes text align left.                                                | 285       |
| lwarp.css:                        | Minipage table and footnotes: tighter margin.                             | 285       |
| chkfloat:                         | Added.                                                                    | 769       |
| cmdtrack:                         | Added.                                                                    | 776       |
| copyrightbox:                     | Added.                                                                    | 780       |
| dprogress:                        | Added.                                                                    | 789       |
| epsfig:                           | Added.                                                                    | 809       |
| graphics:                         | Fix: EPS for DVI LATEX.                                                   | 881       |
| graphics:                         | Set keys before using filename, for epsfig.                               | 884       |
| lua-visual-debug:                 | Added.                                                                    | 961       |
| pdfprivacy:                       | Added.                                                                    | 1077      |
| psfrgx:                           | Added.                                                                    | 1090      |
| psfrag:                           | Added.                                                                    | 1089      |
| pstool:                           | Added.                                                                    | 1091      |
| refcheck:                         | Added.                                                                    | 1099      |
| srcltx:                           | Added.                                                                    | 1164      |
| srctex:                           | Added.                                                                    | 1164      |
| supertabular:                     | Fix for caption w/o opt arg.                                              | 1188      |
| thinsp:                           | Added.                                                                    | 1215      |
| threadcol:                        | Added.                                                                    | 1217      |

|                                                                                          |            |                                                                     |      |
|------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------|------|
| uspace: Added. . . . .                                                                   | 1262       | l warp.css: Reduced margins in titlepage. . . . .                   | 285  |
| vpe: Added. . . . .                                                                      | 1266       | l warp_formal.css: Fix: Font for verse. . . . .                     | 322  |
| xmks: Added. . . . .                                                                     | 1273       | 2in1: Added. . . . .                                                | 660  |
| xtab: Fix for caption w/o opt arg. . . . .                                               | 1293       | CJKutf8: Prevented unless xeCJK. . . . .                            | 770  |
| Added HTMLLatexCmd option. . . . .                                                       | 243        | CJK: Prevented unless xeCJK. . . . .                                | 770  |
| Added PrintLatexCmd option. . . . .                                                      | 243        | asymptote: Improved alt tags. . . . .                               | 693  |
| Docs: \tracingl warp . . . . .                                                           | 264        | bitpattern: Added. . . . .                                          | 718  |
| Docs: HTML entities. . . . .                                                             | 128        | calc: Fix: Required for print version. . . . .                      | 253  |
| Docs: Compiling using custom shell commands. . . . .                                     | 184        | chngpage: Fix: Loads l warp-chngpage. . . . .                       | 769  |
| Docs: Fonts. . . . .                                                                     | 104        | ctexpatch: Added patch. . . . .                                     | 654  |
| Docs: HTMLDebugComments . . . . .                                                        | 114, 264   | flippdf: Added. . . . .                                             | 841  |
| Docs: Multiple indexes. . . . .                                                          | 209        | graphics: Fix: Filename expansion. . . . .                          | 882  |
| Don't write configuration files if processing pstool image. . . . .                      | 277        | graphics: Fix: FormatWP. . . . .                                    | 881  |
| Spaces redefined \AtBeginDocument. . . . .                                               | 639        | musicography: Added. . . . .                                        | 1023 |
| <b>v0.62</b>                                                                             |            | nicefrac: Improved font control and css, honors nice, ugly. . . . . | 1042 |
| \@partcntformat: Added for ctex. . . . .                                                 | 415        | notespaces: Added. . . . .                                          | 1048 |
| \@partnameformat: Added for ctex. . . . .                                                | 415        | octave: Added. . . . .                                              | 1061 |
| \InlineClass: Added optional word-processing style. Replaces \LWR@HTMLtextstyle. . . . . | 375        | pdfcomment: Added. . . . .                                          | 1073 |
| \LWR@PreloadedPackage: Added. . . . .                                                    | 606        | pdfmarginpar: Added. . . . .                                        | 1074 |
| \LWR@ProvidesPackagePass: Fix: Unknown option error. . . . .                             | 260        | register: Updated to v1.8. . . . .                                  | 1099 |
| \LWR@endofline: Extra space if optional arg. . . . .                                     | 641        | rviewport: Added. . . . .                                           | 1106 |
| \LWR@filestart: Refactored. . . . .                                                      | 426        | semantic-markup: Added. . . . .                                     | 1119 |
| \LWR@isolate: Added. . . . .                                                             | 235        | textcomp: Fix conflict with xunicode. . . . .                       | 1208 |
| \LWR@textcurrentfont: Added print version. . . . .                                       | 639        | tram: Added. . . . .                                                | 1247 |
| Tracks depth to avoid nesting repeated font changes. . . . .                             | 633        | twoup: Added. . . . .                                               | 1250 |
| \colorboxBlock: xcolor: Fix: Horiz white space. . . . .                                  | 1279, 1280 | ulem: Improved compatibility with CJKulem. . . . .                  | 1252 |
| \fcolorbox: Fix: No longer requires xifthen. . . . .                                     | 613        | ulem: Now works in a lateximage. . . . .                            | 1252 |
| \fcolorboxBlock: xcolor: Fix: Horiz white space. . . . .                                 | 1280, 1281 | unitsdef: Added. . . . .                                            | 1260 |
| \l@chapter: Don't define if no \chapter. Fix for algorithm2e. . . . .                    | 552        | units: Improved font control and css, honors loose, tight. . . . .  | 1259 |
| \slshape: Added. . . . .                                                                 | 636        | xcolor: Fix: Horiz white space. . . . .                             | 1281 |
| \textup: Fixed WP span class. . . . .                                                    | 631        | xchangebar: Added. . . . .                                          | 1284 |
| \theHTMLSection: Added. . . . .                                                          | 424        | xfrac: Improved css. . . . .                                        | 1287 |
| \theHTMLTitleSection: Added. . . . .                                                     | 424        | xunicode: Fix conflict with textcomp. . . . .                       | 1294 |
| \theHTMLTitleSeparator: Refactored. . . . .                                              | 423        | Added early checks for CJK, CJKutf8. . . . .                        | 217  |
| General: 2018/11/19 . . . . .                                                            | 1          | Docs: asymptote. . . . .                                            | 170  |
| \textbf and related: Improved font detection. . . . .                                    | 629        | Docs: miktex-poppler-bin-* . . . . .                                | 86   |
| l warp.css: Added css for xfrac, nicefrac. . . . .                                       | 285        | Docs: MiKTeX Console . . . . .                                      | 82   |
| l warp.css: Fixed css for \textup. . . . .                                               | 285        | Docs: Improved MiKTeX install instructions. . . . .                 | 82   |

|                                                                                            |          |
|--------------------------------------------------------------------------------------------|----------|
| Logos: Fix for X <sub>E</sub> T <sub>E</sub> X logo if<br>graphics is not loaded. . . . .  | 648      |
| Logos: Improved CSS. . . . .                                                               | 648      |
| Logos: Made robust. . . . .                                                                | 648      |
| fcolorminipage: xcolor: Fix: Horiz<br>white space. . . . .                                 | 1282     |
| Fix: No longer requires xifthen. .                                                         | 614      |
| fminipage: Fix: Horiz white space. .                                                       | 628      |
| LWR@blocktextcurrentfont: Added<br>print version. . . . .                                  | 639      |
| v0.63                                                                                      |          |
| \LWR@HTMLLatexCmd: ujarticle and<br>related: Compile options. . . . .                      | 283      |
| \LWR@LwarpStart: Fixes for xeCJK. .                                                        | 427      |
| \LWR@atbeginverbatim: Fix for<br>xeCJK. . . . .                                            | 446      |
| \LWR@checkloadbefore: Added. . . . .                                                       | 215      |
| \LWR@checkloadfilename: Added to<br>reduce number of l warp-* files. .                     | 256      |
| \LWR@compileuplateX: Added. . . . .                                                        | 280      |
| \LWR@createautosec: Fix for xeCJK. .                                                       | 414      |
| \LWR@earlyclassloadnever: Added. . .                                                       | 216      |
| \LWR@filestart: Fix: Break ligature<br>for luatexko. . . . .                               | 426      |
| \LWR@firstoffive: Added. . . . .                                                           | 235      |
| \LWR@htmclosecomment: Fix: Break<br>ligature for luatexko. . . . .                         | 372      |
| \LWR@isolate: Fix for xeCJK. . . . .                                                       | 235      |
| \LWR@notltjloadafter: Added more<br>classes. . . . .                                       | 214      |
| Added. . . . .                                                                             | 214      |
| \LWR@subhmtlelementclass: Fix for<br>xeCJK. . . . .                                        | 373      |
| \LinkHome: Fix: Print version. . . . .                                                     | 361      |
| \linkhomename: Added. . . . .                                                              | 361      |
| General: 2018/12/03 . . . . .                                                              | 1        |
| l warp.css: Added css for vertical<br>writing. . . . .                                     | 285      |
| l warp.css: Improved css for<br>mdframed. . . . .                                          | 285      |
| amsthm, mdframed: Fix for<br>enforced load order. . . . .                                  | 682      |
| emumitem: v3.6: Nullify<br>\DrawEnumitemLabel. . . . .                                     | 807      |
| everyhook: Fix for bxjs* classes. .                                                        | 253      |
| geometry: Fix for bxjs* classes. .                                                         | 251      |
| mdframed: Avoid thin rules. . . . .                                                        | 989      |
| mdframed: Improved font<br>control. . . . .                                                | 992–994  |
| stfloats: Adapted to ltj* classes. .                                                       | 1179     |
| xpinyin: Added. . . . .                                                                    | 1290     |
| zhlineskip: Added. . . . .                                                                 | 1297     |
| Added pTeXsupport. . . . .                                                                 | 213      |
| Docs: \linkhomename. . . . .                                                               | 114      |
| Docs: \sidetocname. . . . .                                                                | 116      |
| Fix: Default \LWR@mdfive. . . . .                                                          | 230      |
| Improved titles. . . . .                                                                   | 992, 993 |
| pTeX: Encoding. . . . .                                                                    | 231      |
| pTeX: Load upquote. . . . .                                                                | 233      |
| pTeX: No newunicodechar. . . . .                                                           | 232      |
| LWR@BlockClassWP: Fix for xeCJK. .                                                         | 376      |
| v0.64                                                                                      |          |
| \LWR@HTMLLatexCmd: utarticle and<br>related: Added. . . . .                                | 283      |
| \LWR@checkloadfilename: Prevented<br>bitfield, doublespace, newthm,<br>rplain, si. . . . . | 256      |
| \LWR@section: Support for<br>ujarticle and related. . . . .                                | 418      |
| \enskip: Made robust. . . . .                                                              | 642      |
| \qqquad: Made robust. . . . .                                                              | 642      |
| \quad: Made robust. . . . .                                                                | 642      |
| \theHTMLTitleSeparator: Added<br>utarticle and related. . . . .                            | 423      |
| General: 2018/12/08 . . . . .                                                              | 1        |
| addlines: Updated to v0.3. . . . .                                                         | 671      |
| biblatex: Added patch for CT <sub>E</sub> X. .                                             | 711      |
| bsheaders: Added. . . . .                                                                  | 726      |
| gmeometric: Added. . . . .                                                                 | 875      |
| marginal: Added. . . . .                                                                   | 971      |
| rmpage: Added. . . . .                                                                     | 1104     |
| scrlayer-scrpage: Fixes. . . . .                                                           | 1115     |
| scrlayer: Fixes. . . . .                                                                   | 1113     |
| scrpage2: Added. . . . .                                                                   | 1116     |
| ujarticle and related: Improved<br>\today. . . . .                                         | 653      |
| Added utarticle and related. . . . .                                                       | 653      |
| v0.65                                                                                      |          |
| \LWR@LwarpEnd: Improved css for<br>page layout. . . . .                                    | 431      |
| \LWR@LwarpStart: Improved css for<br>page layout. . . . .                                  | 429      |
| \LWR@PreloadedPackage:<br>\AtBeginDocument to avoid<br>option clashes. . . . .             | 606      |
| \LWR@hyperindexrefnullified:<br>Added \textsi. . . . .                                     | 559      |
| \LWR@newhtmlfile: Error if duplicate<br>file name. . . . .                                 | 409      |
| Improved css for page layout. .                                                            | 408, 411 |
| \LWR@nullfonts: Added \textsi. . .                                                         | 565      |
| \LWR@restoreorigformatting: Fix:<br>tabular*. . . . .                                      | 564      |
| \enskip: Changed to Unicode EN<br>SPACE. . . . .                                           | 642      |
| \quad: Changed to Unicode EM<br>SPACE. . . . .                                             | 642      |
| \sishape: Added \sishape. . . . .                                                          | 636      |
| \textsi: Added. . . . .                                                                    | 632      |
| General: 2018/12/22 . . . . .                                                              | 1        |

|                                       |      |
|---------------------------------------|------|
| \l warp.css: Added \sishape,          |      |
| \textsi. ....                         | 285  |
| \l warp.css: Improved css for page    |      |
| layout. ....                          | 285  |
| \l warp.css: Improved css for         |      |
| quotations. ....                      | 285  |
| \l warp.css: Siderocto left for       |      |
| improved \marginpars. ....            | 285  |
| \l warp_formal.css: Siderocto left    |      |
| for improved \marginpars. ....        | 322  |
| \l warp_sagebrush.css: Siderocto      |      |
| left for improved \marginpars. .      | 317  |
| \boundddv: Added. ....                | 722  |
| \embrac: Added. ....                  | 796  |
| \footnoterange: Added. ....           | 858  |
| \gentombow: Added. ....               | 870  |
| \geometry: Fix for bxjs* classes. .   | 251  |
| \graphics: Added \includegraphics     |      |
| alt key. 611, 877, 879, 880, 883, 884 |      |
| \ltjtext: Added. ....                 | 954  |
| \multicolrule: Added. ....            | 1017 |
| \multicol: Added \docolaction.        | 1016 |
| \plarydshln: Added. ....              | 1086 |
| \plextrydshln: Added. ....            | 1087 |
| \plexcolortbl: Added. ....            | 1087 |
| \plex: Added. ....                    | 1086 |
| \pxatbegshi: Added. ....              | 1092 |
| \pxeveryshi: Added. ....              | 1092 |
| \pxftnright: Added. ....              | 1093 |
| \pxjahyper: Added. ....               | 1093 |
| \tascmac: Added. ....                 | 1196 |
| \versonotes: Added. ....              | 1265 |
| Added early checks for jarticle,      |      |
| \tarticle, and related. ....          | 217  |
| Fix for \rensuji. ....                | 653  |
| Fix space between class and id. .     | 376  |
| \tabular: Added support for plect. .  | 517  |
| Fix: tabular*. ....                   | 517  |
| Fix: Rule color. ....                 | 519  |
| \minipage: Refactored to later allow  |      |
| Japanese <t/y> argument. ....         | 620  |
| \LWR@figcaption: Uses                 |      |
| <figurecaption> instead of            |      |
| <fcaption>. ....                      | 542  |
| v0.66                                 |      |
| \@mpfootnotetext: Improved HTML       |      |
| formatting. ....                      | 392  |
| \IgnoreMinipageWidths: Added, . .     | 619  |
| \lWR@footnotetext: Improved HTML      |      |
| formatting. ....                      | 391  |
| \lWR@LwarpStart: Fix: toc, LOF, LOT   |      |
| links. ....                           | 430  |
| \lWR@checkloadfilename: Prevented     |      |
| colortab, epsf, hyper, picinpar,      |      |
| picins, sityle, ucs. ....             | 256  |
| \lWR@closeparagraph: Fix: Combined    |      |
| span, tabular, and lateximage. ....   | 381  |
| Improved HTML formatting. ....        | 380  |
| \lWR@closeparagraph@br: Factored.     | 379  |
| \lWR@fboxstyle: Use current text      |      |
| color. ....                           | 625  |
| \lWR@filenamenoblocks: Fix: Section   |      |
| names detokenized. ....               | 399  |
| Fix: Section names with macros. .     | 400  |
| Fix: Section names with percent. .    | 400  |
| Improved file name generation. .      | 398  |
| Limits filename length. ....          | 401  |
| \lWR@findcurrenttextcolor: Fix:       |      |
| Color if xcolor not loaded. ....      | 638  |
| \lWR@htmlfileref: No longer use       |      |
| zref. ....                            | 525  |
| \lWR@htmalsectionfilename: Sanitize   |      |
| underscores. ....                     | 359  |
| \lWR@hyperindexrefsubtwo: Fix:        |      |
| Long index entries. ....              | 560  |
| \lWR@indentHTML: Added. ....          | 369  |
| \lWR@lateximagedepthref: No longer    |      |
| use zref. ....                        | 526  |
| \lWR@lateximagenumberref: No          |      |
| longer use zref. ....                 | 526  |
| \lWR@nameref: No longer use zref. .   | 525  |
| \lWR@nullfonts: Logos. ....           | 567  |
| \lWR@openparagraph: Improved HTML     |      |
| formatting. ....                      | 379  |
| \lWR@section: Fix: TOC, LOF, LOT      |      |
| links. ....                           | 420  |
| Improved HTML formatting. ....        | 420  |
| \lWR@setexparray: Fix with \par. .    | 355  |
| \lWR@setref: No longer use zref. .    | 525  |
| \lWR@simplifyname: Added. ....        | 397  |
| \lWR@startref: No longer use zref. .  | 529  |
| \lWR@stopars: Improved HTML           |      |
| formatting. ....                      | 383  |
| \lWR@subhmtlementclass:               |      |
| Improved HTML formatting. ....        | 373  |
| \lWR@subhyperrefclass: Improved       |      |
| HTML formatting. ....                 | 533  |
| \lWR@subinlineimage: Improved         |      |
| HTML formatting. ....                 | 534  |
| \lWR@write@lwarplabel: No longer      |      |
| use zref. ....                        | 526  |
| \lWR@writeconf: Added                 |      |
| ImagesDirectory and                   |      |
| ImagesName. ....                      | 283  |
| \LinkHome: Fix: Document              |      |
| cross-references. ....                | 361  |
| \UseMinipageWidths: Added, . .        | 619  |
| \fbox: Fix: Removed extra space. .    | 625  |
| \minipagefullwidth: Made \global.     | 619  |

|                                                                                             |          |
|---------------------------------------------------------------------------------------------|----------|
| \rotatebox: Improved HTML<br>formatting. . . . .                                            | 887      |
| \rule: Improved HTML formatting. .                                                          | 646      |
| \scalebox: Improved HTML<br>formatting. . . . .                                             | 888      |
| \textgreater: Made robust. . . . .                                                          | 358      |
| \textless: Made robust. . . . .                                                             | 358      |
| General: 2019/02/08 . . . . .                                                               | 1        |
| LWR@currentautosecpage: Fix for<br>LOF, LOTfloat in home page. . . . .                      | 395      |
| lwrap.css: Added niceframe. . . . .                                                         | 285      |
| lwrap.css: Improved css for<br>definition lists. . . . .                                    | 285      |
| lwrap_formal.css: Improved css<br>for table notes. . . . .                                  | 322      |
| lwrap_one_limage.txt: Image<br>directory and prefix. . . . .                                | 328      |
| acronym: Fix for acronym in<br>caption. . . . .                                             | 669      |
| acronym: No longer uses zref. . . . .                                                       | 669      |
| ar: Added. . . . .                                                                          | 688      |
| ed: Added. . . . .                                                                          | 795      |
| extramarks: Updated to v3.10. . . . .                                                       | 818      |
| fancybox: Improved HTML<br>formatting. . . . .                                              | 821      |
| fancyhdr: Updated to v3.10. . . . .                                                         | 824      |
| graphics: Improved HTML<br>formatting. . . . .                                              | 884      |
| kotexutf: Patch for references. . . . .                                                     | 655      |
| memoir: Docs re: version<br>numbers. . . . .                                                | 179      |
| multicolrule: Updated for v1.2. .                                                           | 1017     |
| nameauth: Added. . . . .                                                                    | 1026     |
| register: Verified for v1.9. . . . .                                                        | 1099     |
| subcaption: Added. . . . .                                                                  | 1180     |
| tocbasic: Updated to v3.26a. . . . .                                                        | 1233     |
| truncate: Added. . . . .                                                                    | 1249     |
| zref: No longer used. . . . .                                                               | 255      |
| lwrapmk: Added ImagesDirectory<br>and ImagesName. . . . .                                   | 332      |
| lwrapmk: Fix for <b>cleanimages</b> . . . . .                                               | 332      |
| Added early checks for colortab,<br>epsf, hyper, picinpar, picins,<br>sistyle, ucs. . . . . | 217      |
| Added option ImagesDirectory. .                                                             | 242      |
| Added option ImagesName. . . . .                                                            | 242      |
| Added support for indentfirst. . . . .                                                      | 384      |
| Docs: Updated Converting an<br>existing document. . . . .                                   | 102      |
| Fix: Minipages inside multicols. .                                                          | 1016     |
| Improved HTML formatting. . . . .                                                           | 828      |
| Package dates added where<br>possible. . . . .                                              | 660      |
| Sanitize filenames. . . . .                                                                 | 245      |
| tabular: Fix: Minipages inside<br>tabular. . . . .                                          | 521      |
| lateximage: Added \BaseJobname for<br>multiple projects. . . . .                            | 599      |
| Improved HTML formatting. . . . .                                                           | 600      |
| minipage: Honor<br>\LWR@forceminipagefullwidth. .                                           | 621      |
| v0.67                                                                                       |          |
| \FilenameNullify: Added. . . . .                                                            | 567, 639 |
| \FilenameSimplify: Added. . . . .                                                           | 398, 408 |
| \LWR@doequation: xfakebold: Added<br>support. . . . .                                       | 587      |
| \LWR@doubledollar: xfakebold:<br>Added support. . . . .                                     | 580      |
| \LWR@filenamenoblanks: Improved<br>file name generation. . . . .                            | 398      |
| \LWR@lookforpackagename:<br>easyReview: Supported. . . . .                                  | 257      |
| \LWR@nullfonts: Add'l symbols. . . . .                                                      | 565      |
| \LWR@simplifycustom: Added. . . . .                                                         | 398      |
| \LWR@subsingledollar: xfakebold:<br>Added support. . . . .                                  | 577      |
| \LWR@subsingledollarsvg:<br>xfakebold: Added support. .                                     | 575, 576 |
| General: 2019/02/23 . . . . .                                                               | 1        |
| academicons: Added. . . . .                                                                 | 663      |
| bbling: Added. . . . .                                                                      | 704      |
| changes: Added. . . . .                                                                     | 736      |
| color: Fix for version number. . . . .                                                      | 777      |
| dingbat: Added. . . . .                                                                     | 788      |
| eurosym: Added. . . . .                                                                     | 817      |
| fitbox: Added. . . . .                                                                      | 838      |
| fontawesome5: Added. . . . .                                                                | 853      |
| fontawesome: Added. . . . .                                                                 | 852      |
| foreign: Added. . . . .                                                                     | 859      |
| gloss: Added. . . . .                                                                       | 873      |
| karnaugh-map: Added. . . . .                                                                | 919      |
| marvosym: Added. . . . .                                                                    | 973      |
| multicap: Added. . . . .                                                                    | 1015     |
| nomenc: Added. . . . .                                                                      | 1046     |
| notes: Added. . . . .                                                                       | 1047     |
| pifont: Added. . . . .                                                                      | 1085     |
| struktex: Added. . . . .                                                                    | 1180     |
| textcomp: Nullify in filenames. .                                                           | 1209     |
| typicons: Added. . . . .                                                                    | 1252     |
| umoline: Added. . . . .                                                                     | 1254     |
| xfakebold: Added support. . . . .                                                           | 569      |
| xfakebold: Added. . . . .                                                                   | 1286     |
| xunicode: Nullify in filenames. . . . .                                                     | 1295     |
| AMS environments: Added<br>xfakebold support. . . . .                                       | 678      |
| eqnarray: xfakebold: Added support. .                                                       | 593      |
| v0.68                                                                                       |          |
| \LWR@footnotetext: Factored for<br>multiple foot boxes. . . . .                             | 390      |

|                                                                                    |               |
|------------------------------------------------------------------------------------|---------------|
| \LWR@checkloadfilename: Prevented alg, algorithmic, fncylab, pdfcprot . . . . .    | 256           |
| \LWR@printpendingfootnotes: Factored for multiple footnote boxes . . . . .         | 393           |
| \LWR@tabular@warpprintonly: Added . . . . .                                        | 517           |
| General: 2019/03/05 . . . . .                                                      | 1             |
| bigfoot: Added . . . . .                                                           | 717           |
| fnpara: Added . . . . .                                                            | 851           |
| footnotebackref: Added . . . . .                                                   | 858           |
| layouts: Added . . . . .                                                           | 933           |
| listings: Fix for listings v1.7 . . . . .                                          | 953           |
| longtable: Improved error handling . . . . .                                       | 957           |
| manyfoot: Added . . . . .                                                          | 969           |
| niceframe: Added . . . . .                                                         | 1042          |
| perpage: Added . . . . .                                                           | 1079          |
| showtags: Added . . . . .                                                          | 1124          |
| tablefootnote: Added . . . . .                                                     | 1191          |
| threeparttable: Added . . . . .                                                    | 1219          |
| threeparttable: Fix for caption type . . . . .                                     | 1218          |
| <i>lwarpmk</i> : Improved error handling if incomplete compile . . . . .           | 332           |
| Prevented alg, algorithmic, fncylab, pdfcprot . . . . .                            | 217           |
| tabular: Fix: \warpprintonly inside tabular . . . . .                              | 519           |
| v0.69                                                                              |               |
| \LWR@maybetocdata: Added support for tocdata . . . . .                             | 550           |
| \framebox: Fix: Handle paren arg . . . . .                                         | 625           |
| \hypertoc: Added support for tocdata . . . . .                                     | 551           |
| \hypertocfloat: Added support for tocdata . . . . .                                | 552           |
| \makebox: Fix: Handle paren arg . . . . .                                          | 624           |
| \multicolumnrow: multirow: Error if \multirow without \mrowcell . . . . .          | 1022          |
| General: 2019/03/21 . . . . .                                                      | 1             |
| array: Fix for \tabularnewline . . . . .                                           | 690           |
| ctable: Added . . . . .                                                            | 780           |
| eqlist: Added . . . . .                                                            | 811           |
| eqparbox: Added . . . . .                                                          | 811           |
| ftcap: Added . . . . .                                                             | 865           |
| graphics: Warning if using scale option . . . . .                                  | 879           |
| keyfloat: Updated for v2.00 . . . . .                                              | 923           |
| listliketab: Added . . . . .                                                       | 954           |
| longtable: Fix for \tabularnewline . . . . .                                       | 958           |
| minitoc: Added . . . . .                                                           | 1006          |
| multirow: Error if \multirow without \mrowcell . . . . .                           | 1020          |
| rotating: Requires graphicx . . . . .                                              | 1105          |
| supertabular: Fix: Clear caption after use . . . . .                               | 1188          |
| tabularx: Require array . . . . .                                                  | 1192          |
| tabulary: Require array . . . . .                                                  | 1192          |
| tocdata: Added . . . . .                                                           | 1236          |
| topcapt: Added . . . . .                                                           | 1246          |
| xtab: Fix: Clear caption after use . . . . .                                       | 1294          |
| tabular: Error if \multirow without \mrowcell . . . . .                            | 518, 520, 522 |
| lateximage: Fix for pdftotext errors from font size change . . . . .               | 603           |
| fminipage: Honors \minipagewidth . . . . .                                         | 627           |
| v0.70                                                                              |               |
| \LWR@closeparagraph: Reduced underfull \hbox warnings . . . . .                    | 380           |
| \LWR@lookforpackagename: changes: Updated to v3.1.2 . . . . .                      | 257           |
| \LWR@mathjaxfilename: Added . . . . .                                              | 385           |
| \LWR@restoreorigformatting: Fix: \& in a lateximage . . . . .                      | 563           |
| \MathJaxFilename: Added . . . . .                                                  | 385           |
| \enddocument: If labels changed, require recompile before making limages . . . . . | 432           |
| \framebox: Fix: Accept long arg . . . . .                                          | 625           |
| \makebox: Fix: Accept long arg . . . . .                                           | 624           |
| Fix: Ignore width of 0pt . . . . .                                                 | 624           |
| Fix: No width given . . . . .                                                      | 624           |
| General: 2019/04/03 . . . . .                                                      | 1             |
| autonum: Added . . . . .                                                           | 699           |
| changelayout: Added . . . . .                                                      | 735           |
| changes: Updated to v3.1.2 . . . . .                                               | 736           |
| inputrc: Added . . . . .                                                           | 915           |
| mathtools: Added . . . . .                                                         | 981           |
| metalogox: Added . . . . .                                                         | 1001          |
| metalogo: Used in print mode . . . . .                                             | 1000          |
| textcomp: Fix for \textinterrobang . . . . .                                       | 1206          |
| textpos: Added optional arg to textblock . . . . .                                 | 1210          |
| xunicode: Fix for \textinterrobang . . . . .                                       | 1295          |
| AMS environments: Refactored . . . . .                                             | 678           |
| Ensure vector font . . . . .                                                       | 232           |
| File: lwarp_mathjax.txt: Loads autoload-all.js extension . . . . .                 | 328           |
| File: lwarp_mathjax.txt: Updated to MATHJAX v2.7.5 . . . . .                       | 328           |
| Logos: Improved for metalogox, lateximages . . . . .                               | 648           |

|                                                                                                                                  |          |                                                                                                     |          |
|----------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------|----------|
| \LWR@nestspan: Improved <code>minipage</code> ,<br><code>\parbox</code> inside a span. . . . .                                   | 370      | \textulc: <code>fontaxes</code> : Added. . . . .                                                    | 631      |
| v0.71                                                                                                                            |          | \ulcshape: <code>fontaxes</code> : Added. . . . .                                                   | 636      |
| \@mpfootnotetext: Improved HTML<br>formatting. . . . .                                                                           | 392      | General: 2019/06/08 . . . . .                                                                       | 1        |
| Reduced underfull <code>\hbox</code> warnings.                                                                                   | 392      | \l warp.css: Added <code>backnaur</code> . . . . .                                                  | 285      |
| \l WR@closeparagraph: Flush left<br>captions. . . . .                                                                            | 380      | \l warp.css: Removed unneeded<br>support for <code>\sishape</code> , <code>\textsi</code> . . . . . | 285      |
| \l WR@closetabledatacell: Fix:<br>Tabular par tags. . . . .                                                                      | 465, 466 | <code>backnaur</code> : Added. . . . .                                                              | 702      |
| \l WR@stoppars: Reduced underfull<br><code>\hbox</code> warnings. . . . .                                                        | 383      | boxedminipage2e: Added support<br>for <code>lateximages</code> . . . . .                            | 722      |
| General: 2019/04/29 . . . . .                                                                                                    | 1        | changes: Fix references for <code>xr</code> ,<br><code>xr-hyper</code> . . . . .                    | 736      |
| caption: Reduced underfull <code>\hbox</code><br>warnings. . . . .                                                               | 729      | <code>fontaxes</code> : Added. . . . .                                                              | 633, 854 |
| chemfig: Updated to v1.4. . . . .                                                                                                | 742      | gloss: Fix references for <code>xr</code> ,<br><code>xr-hyper</code> . . . . .                      | 873      |
| endfloat: Updated for v2.7. . . . .                                                                                              | 797      | hypbmsec: Added. . . . .                                                                            | 895      |
| \l warp-common-multimedia:<br>Added. . . . .                                                                                     | 1330     | minibox: Added. . . . .                                                                             | 1005     |
| media9: Added. . . . .                                                                                                           | 998      | nfssext-cfr: Added. . . . .                                                                         | 1035     |
| movie15: Added. . . . .                                                                                                          | 1014     | nomenc: Fix references for <code>xr</code> ,<br><code>xr-hyper</code> . . . . .                     | 1046     |
| multimedia: Added. . . . .                                                                                                       | 1018     | pdfcrypt: Added. . . . .                                                                            | 1074     |
| textpos: Updated for v1.9.1. . . . .                                                                                             | 1210     | shapepar: Added. . . . .                                                                            | 1123     |
| <i>lwarpmk</i> : If wrong <code>lwarpmk.conf</code><br>version, or wrong OS, displays the<br>print command to recompile. . . . . | 332      | slantsc: Added. . . . .                                                                             | 1158     |
| Docs: Error testing. . . . .                                                                                                     | 201      | soulutf8: Fix: Loads <code>soul</code> . . . . .                                                    | 1161     |
| quotation: Fix: <code>blockquotation</code> tag.                                                                                 | 444      | tabfigures: Added. . . . .                                                                          | 1191     |
| v0.72                                                                                                                            |          | xr-hyper: Added. . . . .                                                                            | 1292     |
| \l WR@newautopagelabel: Fix:<br>References for <code>xr</code> , <code>xr-hyper</code> . . . . .                                 | 395      | xr: Added. . . . .                                                                                  | 1292     |
| \l WR@restoreorigformatting: Use<br>\l WR@formatted for <code>\bfseries</code> ,<br>etc. . . . .                                 | 563      | zhlineskip: Updated to v1.0e. . . . .                                                               | 1297     |
| \chapter: Added support for<br>hypbmsec. . . . .                                                                                 | 422      | Use <code>\l WR@formatted</code> for<br><code>\bfseries</code> , etc. . . . .                       | 274, 634 |
| \ebweight: nfssext-cfr: Added. . . . .                                                                                           | 634      |                                                                                                     |          |
| \hypertoc: Fix: References for <code>xr</code> ,<br><code>xr-hyper</code> . . . . .                                              | 551      | v0.73                                                                                               |          |
| \hypertocfloat: Fix: References for<br><code>xr</code> , <code>xr-hyper</code> . . . . .                                         | 552      | \@include: Fix: <code>\newpage</code> instead of<br><code>\clearpage</code> . . . . .               | 262      |
| \lgweight: nfssext-cfr: Added. . . . .                                                                                           | 634      | \HTMLTitle: Added default title if<br>none specified. . . . .                                       | 386      |
| \paragraph: Added support for<br>hypbmsec. . . . .                                                                               | 423      | \l WR@LwarpStart: Fix: Empty<br>header/footer. . . . .                                              | 429      |
| \part: Added support for hypbmsec. . . . .                                                                                       | 422      | \l WR@addbaselinemarker: Improved<br>warning messages. . . . .                                      | 570      |
| \section: Added support for<br>hypbmsec. . . . .                                                                                 | 422      | \l WR@createfooter: Fix: Empty<br>header/footer. . . . .                                            | 408      |
| \subparagraph: Added support for<br>hypbmsec. . . . .                                                                            | 423      | \l WR@descitem: Fix: HTML tags. . . . .                                                             | 455      |
| \subsection: Added support for<br>hypbmsec. . . . .                                                                              | 422      | \l WR@forceemptyline: Added. . . . .                                                                | 235      |
| \subsubsection: Added support for<br>hypbmsec. . . . .                                                                           | 423      | \l WR@gsavebox: Added global save<br>boxes. . . . .                                                 | 236      |
| \texteb: nfssext-cfr: Added. . . . .                                                                                             | 630      | \l WR@htmlelementclass: Vertical<br>space. . . . .                                                  | 373      |
| \textlg: nfssext-cfr: Added. . . . .                                                                                             | 630      | \l WR@htmlelementclassline: Vertical<br>space. . . . .                                              | 374      |

|                                                                   |                 |
|-------------------------------------------------------------------|-----------------|
| \LWR@newhtmlfile: Fix: Empty header/footer.                       | 411             |
| \LWR@nullfonts: Fix: \hspace in sectioning file name.             | 567             |
| \LWR@titlingmaketitle: titling: Fix: Paragraph tags.              | 441, 1232, 1233 |
| Fix: Paragraph tags.                                              | 441             |
| \attribution: Fix: Paragraph tags.                                | 443             |
| \color: xcolor: Added HTML support.                               | 1278            |
| \fboxBlock: Fix: Paragraph tags.                                  | 626             |
| \hspace: Fix: Avoid empty <span>.                                 | 643             |
| \l@book: Added \book for memoir.                                  | 552             |
| \maketitle: titling: Fix: Paragraph tags.                         | 1231            |
| Fix: Paragraph tags.                                              | 440             |
| \marginparBlock: Fix: Paragraph tags.                             | 394             |
| \postbookname: Added \book for memoir.                            | 421             |
| \printthanks: Fix: Paragraph tags.                                | 436             |
| \rule: Fix: Avoid empty <span>.                                   | 647             |
| General: 2019/07/11                                               | 1               |
| lwarp.css: Added \book for memoir.                                | 285             |
| lwarp.css: Improved pkgtocdata formatting.                        | 285             |
| lwarp_formal.css: Added \book for memoir.                         | 317, 322        |
| boxedminipage2e: Fix: Paragraph tags.                             | 722             |
| epigraph: Fix: Paragraph tags.                                    | 807             |
| fancyvrb: Fix: Nested <div>/<pre>.                                | 830, 832        |
| fancyvrb: Btrivlist: Fixed paragraph tags.                        | 822             |
| intopdf: Updated to v0.2.1.                                       | 916             |
| listings: Fix: Paragraph tags.                                    | 952             |
| lwarp-common-multimedia: Fix: No size for audio file.             | 1331, 1332      |
| lwarp-common-multimedia: Fix: Paragraph tags.                     | 1333            |
| lwarp-patch-komascript: Fix for captions.                         | 1300            |
| lwarp-patch-memoir: Added \book.                                  | 1307            |
| lwarp-patch-memoir: Fix for \frontmatter* and \mainmatter*.       | 1308            |
| lyluatex: Added.                                                  | 967             |
| musicography: Updated to 2019/05/28. Now supports lateximages.    | 1023            |
| quotchap: Fix: Paragraph tags.                                    | 1094            |
| quotchap: Updated to v1.2.                                        | 1093            |
| quoting: Fix: Paragraph tags.                                     | 1094            |
| scrextend: Fix: Paragraph tags.                                   | 1111            |
| stackengine: Added.                                               | 1165            |
| threeparttable: Added measuredfigure.                             | 1218            |
| tocdata: Honors \tocdataformat.                                   | 1236            |
| tocdata: Improved formatting.                                     | 1236            |
| tocdata: Updated to v2.03.                                        | 1236            |
| versonotes: Updated to v0.4.                                      | 1265            |
| vwcol: Fix: Paragraph tags.                                       | 1267            |
| xy: Fix for \xybox.                                               | 1296            |
| xy: Improved xy, reverted \xymatrix, for qcircuit.                | 1296            |
| Added \book for memoir.                                           | 351, 367        |
| AMS environments: Fix: alt tags.                                  | 678             |
| AMS environments: Fix: Paragraph tags.                            | 678, 679        |
| Numbered HTML entity used for text dollar.                        | 570             |
| tabular: Fix and warning for tabular inside a <span>.             | 517             |
| \LWR@blocktextcurrentfont: Fix: Paragraph tags.                   | 634             |
| \LWR@nestspan: Fix: quote, quotation inside a span.               | 370             |
| v0.74                                                             |                 |
| \@ensuredmath: Add \ThisAltText.                                  | 581             |
| \AltTextClose: Added.                                             | 568             |
| \AltTextOpen: Added.                                              | 568             |
| \ImageAltText: Added.                                             | 568             |
| \LWR@ThisAltText: Add \ThisAltText.                               | 568             |
| \LWR@addlinktitle: Added.                                         | 529             |
| \LWR@doequation: Add \ThisAltText.                                | 587, 588        |
| \LWR@doubledollar: Add \ThisAltText.                              | 580             |
| \LWR@lateximage@oneimage: Factored from lateximage.               | 598             |
| \LWR@lateximage@oneimageb: Factored from lateximage.              | 598             |
| \LWR@setcurrentfont: Factored.                                    | 570             |
| \LWR@singledollar: Add \ThisAltText.                              | 580             |
| \LWR@singledollarmeasure: Fix: Font control.                      | 572             |
| \LWR@subinlineimage: Add \ThisAltText.                            | 534             |
| \LWR@subsingledollar: Add \ThisAltText.                           | 578             |
| \LWR@subsingledollarsvg: Adds star argument for lateximage.       | 575             |
| \LateximageFontSize: Adjusted svg math font scaling default to 1. | 596             |

|                                          |               |
|------------------------------------------|---------------|
| \MathImageAltText: Renamed from          |               |
| \mathimage. . . . .                      | 568           |
| \PackageDiagramAltText: Renamed          |               |
| from \packagediagramname. . . . .        | 569           |
| \ThisAltText: Add \ThisAltText. . . . .  | 568           |
| \hspace: Ignore negative space. . . . .  | 642           |
| General: 2019/09/02 . . . . .            | 1             |
| lwarf.css: Added lyluatex. . . . .       | 285           |
| amsmath: Add \ThisAltText. . . . .       | 680           |
| forest: alt text. . . . .                | 859           |
| geometry: Remembers user's               |               |
| geometry. . . . .                        | 870           |
| graphics: Add                            |               |
| \ThisAltText. . . . .                    | 879, 884, 885 |
| lyluatex: Adapts to user's geometry.     | 967           |
| lyluatex: Preserves left margin. . . . . | 967           |
| lyluatex: Renamef                        |               |
| \lyluateximangename. . . . .             | 967           |
| lyluatex: Split system images,           |               |
| assign class. . . . .                    | 967           |
| mhchem: Modified for new                 |               |
| lateximage. . . . .                      | 1002          |
| pdffpages: Adjust to user's paper        |               |
| size. . . . .                            | 1077          |
| stackengine: alt tags. . . . .           | 1165          |
| struktex: alt text. . . . .              | 1180          |
| tikz: Added alt text. . . . .            | 1221          |
| lwarpmk: lwarpmk clean removes           |               |
| add'l files. . . . .                     | 332           |
| lwarpmk: lwarpmk epstopdf and            |               |
| pdftosvg honor directories. . . . .      | 332           |
| Remembers user's geometry. . . . .       | 250           |
| lateximage: Add \ThisAltText. . . . .    | 604           |
| Added second starred argument. . . . .   | 599           |
| Improved alt text. . . . .               | 601           |
| New syntax for                           |               |
| \LWR@subinlineimage. . . . .             | 604           |
| eqnarray: Add \ThisAltText. . . . .      | 593           |
| \LWR@displaymathother: Uses              |               |
| \MathImageAltText. . . . .               | 582           |
| \LWR@equationother: Uses                 |               |
| \MathImageAltText. . . . .               | 582           |
| v0.75                                    |               |
| \normalcolor: xcolor: Added for          |               |
| HTML. . . . .                            | 1276          |
| General: 2019/09/23 . . . . .            | 1             |
| lwarf.css: Improved                      |               |
| marginblock. . . . .                     | 285           |
| keyfloat: Fix: \normalcolor. . . . .     | 923           |
| wrapfig: Fix for \linewidth. . . . .     | 1272          |
| wrapfig: Fix for width. . . . .          | 1272          |
| minipage: Fix: \linewidth. . . . .       | 621           |
| v0.76                                    |               |
| General: 2019/10/08 . . . . .            | 1             |
| lwarf.css: Fix for small caps. . . . .   | 285           |
| acro: Updated for v2.10. . . . .         | 667           |
| xr-hyper: Updated for v6.1. . . . .      | 1292          |
| xr: Updated for v5.05 and xr-hyper       |               |
| v6.1. . . . .                            | 1292          |
| Docs expanded: Multiple projects.        | 99            |
| File: lwarf_mathjax.txt: Updated         |               |
| to MATHJAX v2.7.6. . . . .               | 328           |
| v0.77                                    |               |
| General: 2019/10/15 . . . . .            | 1             |
| booktabs: Updated to v1.6180339.         | 720           |
| chemformula: Updated to v4.15.           | 745           |
| v0.78                                    |               |
| \LWR@linkcatcodes: babel-french:         |               |
| Fix: Hyperlinks. . . . .                 | 532           |
| Factored. . . . .                        | 532           |
| \LWR@linkmediacatcodes:                  |               |
| babel-french: Fix: Hyperlinks. . . . .   | 532           |
| Factored. . . . .                        | 532           |
| \LWR@nullifyNoAutoSpacing:               |               |
| babel-french: Fix: Hyperlinks. . . . .   | 517           |
| \LWR@subhyperrefclass: Remove            |               |
| extra space. . . . .                     | 533           |
| \normalfont: Uses \LWR@formatted.        | 636           |
| General: 2019/11/07 . . . . .            | 1             |
| accessibility: Added. . . . .            | 665           |
| babel-french: Fix: Hyperlinks. . . . .   | 367           |
| caption: Added warning regarding         |               |
| passing options. . . . .                 | 728           |
| filecontents: Fix to overwrite           |               |
| existing files using new                 |               |
| filecontents environment. . . . .        | 253           |
| geometry: Cleaner option                 |               |
| handling. . . . .                        | 871           |
| graphics: Fix: alt tag expansion.        | 884           |
| lwarf-common-multimedia: Fix             |               |
| links with new LaTeX kernel. . . . .     | 1331          |
| titlesec: Fix for \titleclass. . . . .   | 1227          |
| v0.79                                    |               |
| \CustomizeMathJax: Fix: Sanitize for     |               |
| HTML. . . . .                            | 405           |
| \LWR@ProvidesPackagePass: Fix:           |               |
| catoptions. . . . .                      | 260           |
| \LWR@checkloadfilename: Prevented        |               |
| bxckjatype, hangul. . . . .              | 256           |
| \LWR@closetabledatacell: Fix:            |               |
| Nested tabulars. . . . .                 | 466           |
| \LWR@customizeMathJax: MathJax:          |               |
| Hide definitions. . . . .                | 407           |
| \LWR@forcenewautoidanchor:               |               |
| Factored. . . . .                        | 539           |
| \LWR@mathjaxwarn: Warn if using          |               |
| packages partially supported by          |               |
| MATHJAX. . . . .                         | 657           |
| \LWR@parseaftercolumn: Remove            |               |
| outermost braces. . . . .                | 474           |

|                                                   |            |
|---------------------------------------------------|------------|
| \LWR@parseatcolumn: Remove outermost braces.      | 471        |
| \LWR@parsebangcolumn: Remove outermost braces.    | 472        |
| \LWR@parsebeforecolumn: Remove outermost braces.  | 473        |
| \LWR@setexpparray: Fix: Nested tabulars.          | 355        |
| \LWR@singledollarmeasure: Factored.               | 572        |
| \LWR@subHTMLsanitize: Fix: \&. Factored.          | 402        |
| \LWR@subsingledollarsvg: Adjust for unknown size. | 575        |
| Factored.                                         | 574        |
| \LWR@tabularendofline: Fix: Nested tabulars.      | 470        |
| \captionlistentry: Fix: Duplicate auto-id.        | 543        |
| \macrotocname: Added.                             | 237        |
| \makebox: Fix: Adjust for virtual page size.      | 624        |
| \multicolumnrow: multirow: Fix: Nested tabulars.  | 1022       |
| \noalign: Fix: Nested tabulars.                   | 516        |
| General: 2020/02/01                               | 1          |
| MATHJAX: Additional macros.                       | 405        |
| lwarp.css: Fix: Nested tabulars.                  | 285        |
| amsmath: Added MATHJAX emulation.                 | 681        |
| arydshln: Added MATHJAX emulation.                | 692        |
| ar: Added MATHJAX emulation.                      | 689        |
| awesomebox: Added.                                | 700        |
| babel and polyglossia: Added info messages.       | 656        |
| bigdelim: Added MATHJAX emulation.                | 716        |
| bigstrut: Added MATHJAX emulation.                | 718        |
| bm: Added.                                        | 718        |
| booktabs: Added MATHJAX emulation.                | 722        |
| booktabs: Fix for memoir with lateximage.         | 516, 720   |
| braket: Added.                                    | 723        |
| floatflt: Improved width control.                 | 843        |
| fontawesome5: Supports font size, color.          | 853        |
| fontawesome: Refactored with fix for \FAtthree.   | 852        |
| fontawesome: Supports font size, color.           | 852        |
| geometry: Also save \textwidth, \textheight.      | 252        |
| graphics: Factored from \LWR@includegraphicsb.    | 881, 882   |
| graphics: Fix for negative angles.                | 880        |
| ifpdf, ifptex: Provided by iftex.                 | 213        |
| keyfloat: Factored to \LWR@setvirtualpage.        | 928        |
| ltablex: Fix: Require longtable.                  | 959        |
| ltxtable: Fix: Required packages.                 | 960        |
| luatex85: Removed.                                | 213        |
| mathtools: Added MATHJAX emulation.               | 982        |
| multirow: Add: MATHJAX emulation.                 | 1022       |
| multirow: Fix: Centered vertical alignment.       | 1021       |
| niceframe: Fix: Adjust for virtual page size.     | 1042       |
| parallel: Added.                                  | 1065       |
| parcolumns: Added.                                | 1067       |
| pdfcolfoot: Added.                                | 1072       |
| pdfcolmk: Added.                                  | 1072       |
| pdfcolparallel: Added.                            | 1072       |
| pdfcolparcolumns: Added.                          | 1073       |
| pdfcol: Added.                                    | 1071       |
| physics: Added.                                   | 1081       |
| siunitx: Fix: \square, \cubed.                    | 1143       |
| siunitx: Improved MATHJAX.                        | 1141       |
| slashed: Added.                                   | 1159       |
| steinmetz: Added.                                 | 1179       |
| svg: Added.                                       | 1189       |
| transparent: Supports lateximages.                | 1247       |
| unicode-math: Added.                              | 1256       |
| widetable: Added.                                 | 1270       |
| witharrows: Added.                                | 1270       |
| xcolor: Fix: Nested tabulars.                     | 1282, 1283 |
| xltabular: Fix: Require ltablex.                  | 1288       |
| xurl: Updated to v0.08.                           | 1295       |
| AMS environments: Fix: Nested.                    | 679        |
| Factored to \LWR@setvirtualpage.                  | 847, 884   |
| Fix: Use newfloat instead of float.               | 848        |
| Fix: Use full \linewidth.                         | 847        |
| Remember HTML font size.                          | 639        |
| tabular: colortbl: Fix: Nested tabulars.          | 519        |
| Fix: Nested tabulars.                             | 522        |
| warpMathJax: Added.                               | 249        |
| lateximage: Improved \linewidth.                  | 602        |
| minipage: Fix: \linewidth frame padding.          | 621        |
| Fix: Adjust for virtual page size.                | 620        |
| fminipage: Fix: Adjust for virtual page size.     | 627        |

|                                                                   |            |                                                                             |          |
|-------------------------------------------------------------------|------------|-----------------------------------------------------------------------------|----------|
| \LWR@setvirtualpage: Factored.                                    | 618        | Prevented formula, shadethm,<br>slashbox.                                   | 217      |
| v0.80                                                             |            | \teximage: Fix: Rule color in<br>teximage.                                  | 602      |
| \CustomizeMathJax: Fix: Made<br>\@onlypreamble.                   | 405        | fcolorminipage: Made robust.                                                | 614      |
| Warn of slow compile.                                             | 405        | eqnarray: Fix: eqnarray*.                                                   | 593      |
| \LWR@checkloadfilename: Prevented<br>formula, shadethm, slashbox. | 256        | v0.81                                                                       |          |
| \LWR@infoprocessingmathjax: Add:<br>Info message.                 | 405        | \LWR@addbaselinemarker: Improved<br>warning messages.                       | 570      |
| \LWR@restoreorigformatting:<br>Improved math, displaymath.        | 564        | \LWR@checkloadfilename: Prevented<br>statex.                                | 256      |
| \fcolorbox: Made robust.                                          | 613        | \LWR@replacestrings: Added.                                                 | 402      |
| \fcolorboxBlock: Made robust.                                     | 613        | \LWR@subHTMLsanitize: Faster.                                               | 402      |
| \includegraphics: Made robust.                                    | 886        | \textcolor: xcolor: \textcolor:<br>Spurious space.                          | 1278     |
| General: 2020/02/19                                               | 1          | General: 2020/03/04                                                         | 1        |
| \textbf and related: Use HTML<br>series, etc.                     | 629        | \l warp.css: Added nolbreaks.                                               | 285      |
| accessibility: Added MATHJAX<br>emulation.                        | 665        | DotArrow: Added.                                                            | 789      |
| accsupp: Added MATHJAX<br>emulation.                              | 666        | Slunits: Improved \unit. Fixed in<br>math mode. Added MATHJAX<br>emulation. | 1129     |
| autobreak: Added.                                                 | 698        | axessibility: Added MATHJAX<br>emulation.                                   | 701      |
| biblatex: Creates hyperlinks.                                     | 711        | axessibility: Updated to 2020/01/08<br>version.                             | 701      |
| centernot: Added.                                                 | 734        | colonequals: Added.                                                         | 776      |
| chemmacros: Updated to<br>v5.10.                                  | 756, 763   | decimal: Added.                                                             | 785      |
| extarrows: Added.                                                 | 818        | dotlessi: Added.                                                            | 789      |
| fewerfloatpages: Added.                                           | 837        | econometrics: Added.                                                        | 793      |
| fouridx: Added.                                                   | 860        | englcl: Added.                                                              | 800      |
| gensymb: Added.                                                   | 870        | gridset: Updated to v0.3.                                                   | 890      |
| ghsystem: Added.                                                  | 871        | hyperref: Added<br>\pdfstringdefDisableCommands.                            | 905      |
| gmeometric: Requires geometry.                                    | 875        | luamplib: Added.                                                            | 961      |
| hhline: Added.                                                    | 894        | multiobjective: Added.                                                      | 1018     |
| leftidx: Added.                                                   | 936        | nolbreaks: Added.                                                           | 1046     |
| mathcomp: Added.                                                  | 975        | physunits: Added.                                                           | 1081     |
| mathdots: Added.                                                  | 977        | returntogrid: Added.                                                        | 1103     |
| mathfixs: Added.                                                  | 977        | stackrel: Added.                                                            | 1167     |
| mismath: Added.                                                   | 1008       | statex2: Added.                                                             | 1168     |
| nccmath: Added.                                                   | 1030       | statmath: Added.                                                            | 1177     |
| noitcrl: Added.                                                   | 1046       | \l warpmk: Improved error if in \l warp<br>source directory.                | 332      |
| pdfcomment: Added MATHJAX<br>emulation.                           | 1074       | Prevented statex.                                                           | 217      |
| relsize: Added MATHJAX<br>emulation.                              | 1101       | v0.82                                                                       |          |
| rmathbr: Added.                                                   | 1103       | \LWR@disablepinyin: Added.                                                  | 235      |
| subsubscripts: Added.                                             | 1186       | \LWR@doequation: MATHJAX:<br>Improved footnotes.                            | 588      |
| tagpdf: Added.                                                    | 1193       | \LWR@syncmathjax: Removed <par><br>tags.                                    | 584      |
| unicode-math: Improved<br>MATHJAX.                                | 1256, 1257 | General: 2020/03/25                                                         | 1        |
| url: Creates hyperlinks.                                          | 1261       | MATHJAX: Improved footnotes.                                                | 405, 588 |
| xfrac: Added MATHJAX emulation.                                   | 1288       | amsmath: Fixed: \intertext for<br>MATHJAX.                                  | 681      |
| AMS environments: Fix: Centering<br>starred envs.                 | 678, 679   | chemfig: Updated to v1.5.                                                   | 742      |
| Improved math, displaymath.                                       | 581        |                                                                             |          |

|                                                |                                                                                           |            |
|------------------------------------------------|-------------------------------------------------------------------------------------------|------------|
| draftwatermark:                                | Updated to v2.0.                                                                          | 790        |
| endnotes:                                      | Added MATHJAX                                                                             |            |
| emulation.                                     |                                                                                           | 799        |
| endnotes:                                      | Fix: Mark in print mode.                                                                  | 799        |
| etoc:                                          | Added.                                                                                    | 815        |
| luatexko:                                      | Added.                                                                                    | 961        |
| lwarp-patch-memoir:                            | Supports                                                                                  |            |
| tocvsec2.                                      |                                                                                           | 1308, 1312 |
| marginnote:                                    | Added MATHJAX                                                                             |            |
| emulation.                                     |                                                                                           | 973        |
| marginnote:                                    | Fix: Neutralize in print mode.                                                            | 972        |
| nccfoots:                                      | Added MATHJAX                                                                             |            |
| emulation.                                     |                                                                                           | 1030       |
| pagenote:                                      | Added MATHJAX                                                                             |            |
| emulation.                                     |                                                                                           | 1064       |
| parnotes:                                      | Added MATHJAX                                                                             |            |
| emulation.                                     |                                                                                           | 1070       |
| sidenotes:                                     | Added MATHJAX                                                                             |            |
| emulation.                                     |                                                                                           | 1127       |
| soul:                                          | Fixed: \<.                                                                                | 1159       |
| syntonly:                                      | Added \nopages@.                                                                          | 1191       |
| syntonly:                                      | Added to                                                                                  |            |
| \lwr@loadafter.                                |                                                                                           | 220        |
| ulem:                                          | Fixed: \dashuline.                                                                        | 1252       |
| xpinyin:                                       | Added full pinyin support.                                                                | 1290       |
| v0.83                                          |                                                                                           |            |
| General:                                       | 2020/03/27                                                                                | 1          |
| lwarp-patch-memoir:                            | Fixed                                                                                     |            |
| framed.                                        |                                                                                           | 1302       |
| lwarp-patch-memoir:                            | Fixed:                                                                                    |            |
| \specialindex.                                 |                                                                                           | 1324       |
| lwarp-patch-memoir:                            | No longer requires subfigure.                                                             | 1303       |
| lwarp-patch-memoir:                            | Updated for new sizes.                                                                    | 1304       |
| lwarp-patch-memoir:                            | Updated.                                                                                  | 1306, 1307 |
| physunits:                                     | Updated to v1.0.4.                                                                        | 1081       |
| v0.84                                          |                                                                                           |            |
| \@currentHref:                                 | backref: Fixed from lwarp v0.72 changes.                                                  | 532        |
| \@currentlabelname:                            | Default name for previous/next links.                                                     | 523        |
| \@fnsymbol:                                    | \lwr@formatted, fixed double bar.                                                         | 439        |
| \@makecaption:                                 | caption now optional.                                                                     | 540        |
| Warn inside a <span>.                          |                                                                                           | 541        |
| \@textsubscript:                               | Use \lwr@formatted. No longer                                                             |            |
| \AtBeginDocument.                              |                                                                                           | 637        |
| \@textsuperscript:                             | Use \lwr@formatted.                                                                       | 637        |
| \@xdlbfloat:                                   | caption now optional.                                                                     | 538        |
| \AddSubtitlePublished:                         | Added                                                                                     |            |
| \subtitle, \published for koma*.               |                                                                                           | 442        |
| Fixed \subtitle, \printsubtitle if no titling. |                                                                                           | 442        |
| \HTMLFirstPageBottom:                          | Added                                                                                     |            |
| \FirstPageBottom.                              |                                                                                           | 384        |
| \LWR@LwarpEnd:                                 | Added prev/next links.                                                                    | 431        |
| Fix: No footer for EPUB                        |                                                                                           | 431        |
| \LWR@LwarpStart:                               | Added prev/next links.                                                                    | 430        |
| \LWR@createfooter:                             | Added                                                                                     |            |
| \FirstPageBottom.                              |                                                                                           | 408        |
| \LWR@domulticolumn:                            | Fix: Multicolumn style.                                                                   | 504        |
| \LWR@excludecomment:                           | Independent cut files.                                                                    | 248        |
| \LWR@filenamenoblocks:                         | Fix: Dashes in filename.                                                                  | 401        |
| \LWR@filestart:                                | Improved HTML title.                                                                      | 425        |
| \LWR@floatbegin:                               | Warn inside a <span>.                                                                     | 536        |
| \LWR@forcenewautoidanchor:                     | <par> handling.                                                                           | 539        |
| \LWR@htmlsectionfilename:                      | Fix: Sections called “Index” or “index” have -0 appended to their filenames if no prefix. | 359        |
| \LWR@new@label:                                | Removed optional args.                                                                    | 528        |
| \LWR@newhtmlfile:                              | Added prev/next links.                                                                    | 409, 411   |
| \LWR@nullfonts:                                | Add'l symbols.                                                                            | 565        |
| Factored out redefinitions.                    |                                                                                           | 565        |
| Fix: Accents.                                  |                                                                                           | 565        |
| Revised \texorpdfstring.                       |                                                                                           | 567        |
| \LWR@section:                                  | Added prev/next links.                                                                    | 420        |
| Warn inside a <span>.                          |                                                                                           | 416        |
| \LWR@startpars:                                | Ignore if in lateximage.                                                                  | 381        |
| \LWR@stoppars:                                 | Ignore if in lateximage.                                                                  | 382        |
| \LinkNext:                                     | Added prev/next links.                                                                    | 363        |
| \LinkPrevious:                                 | Added prev/next links.                                                                    | 363        |
| \attribution:                                  | Added print mode.                                                                         | 443        |
| \caption@end:                                  | caption now optional.                                                                     | 543        |
| \captionlistentry:                             | caption now optional.                                                                     | 543        |
| \captionof:                                    | caption now optional.                                                                     | 544        |
| \end@dblfloat:                                 | caption now optional.                                                                     | 538        |

|                                              |            |
|----------------------------------------------|------------|
| \linknextname: Added prev/next               |            |
| links. . . . .                               | 362        |
| \linkpreviousname: Added prev/next           |            |
| links. . . . .                               | 362        |
| \printthanks: Fix: \printthanks in           |            |
| print mode. . . . .                          | 436        |
| \sscshape: Moved to core. . . . .            | 636        |
| \textssc: Moved to core. . . . .             | 632        |
| \textsubscript: Use                          |            |
| \LWR@formatted. No longer                    |            |
| \AtBeginDocument. . . . .                    | 637        |
| \textsuperscript: Use                        |            |
| \LWR@formatted. . . . .                      | 637        |
| \theHTMLTitleSeparator: Improved             |            |
| spacing for xeCJK. . . . .                   | 423        |
| \verbatiminput: Added print mode. . . . .    | 448        |
| General: 2020/04/24 . . . . .                | 1          |
| \LaTeX accents: Add'l symbols. . . . .       | 275        |
| \lwarf.css: Added koma-* subject. . . . .    | 285        |
| \lwarf.css: Fix: Minipage tex align. . . . . | 285        |
| \lwarf.css: Fix: Top nav if narrow           |            |
| window. . . . .                              | 285        |
| \lwarf.css: Improved nfssext-cfr. . . . .    | 285        |
| \lwarf.css: Improved realscripts. . . . .    | 285        |
| abstract: Updated for memoir. . . . .        | 662        |
| alltt: Added print mode. . . . .             | 676        |
| amsthm: Fix for \nameref. . . . .            | 683        |
| backref: Fixed from \lwarf v0.72             |            |
| changes. . . . .                             | 703        |
| biblatex: Fixed: Requires hyperref. . . . .  | 711        |
| boxedminipage: Renamed from                  |            |
| boxedminipage2e per                          |            |
| author. . . . .                              | 722, 723   |
| caption: Improved integration. . . . .       | 730        |
| caption: Non-width \parboxes. . . . .        | 728        |
| caption: Simplified. . . . .                 | 728        |
| epigraph: Added print mode. . . . .          | 807        |
| fixme: Added section name. . . . .           | 839        |
| float: Fix: Recursive name. . . . .          | 842        |
| fontaxes: Moved sscshape to core.            |            |
| \filenameNullify. . . . .                    | 854        |
| \lwarf-patch-memoir: Creates mark            |            |
| macros. . . . .                              | 1311       |
| \lwarf-patch-memoir: Fix:                    |            |
| \label. . . . .                              | 1303       |
| \lwarf-patch-memoir: Fixed                   |            |
| pagenotes. . . . .                           | 1321       |
| \lwarf-patch-memoir: Improved                |            |
| cleveref support. . . . .                    | 1321       |
| \lwarf-patch-memoir: No longer               |            |
| requires subcaption. . . . .                 | 1303       |
| \lwarf-patch-memoir: No longer               |            |
| uses subcaption. . . . .                     | 1318       |
| \lwarf-patch-memoir: Use \LaTeX              |            |
| captions. . . . .                            | 1316       |
| \lwarf-patch-memoir: Uses                    |            |
| memoir's \newcomment,                        |            |
| \commentsoff, \commentson. . . . .           | 1322       |
| \lwarf-patch-memoir: \contsubtop,            |            |
| etc. now as-is. . . . .                      | 1329       |
| \lwarf-patch-memoir: caption now             |            |
| optional, removed dup caption. . . . .       | 1319       |
| \mdframed: Warn inside a <span>. . . . .     | 990        |
| \memoir: Preloads xcolor. . . . .            | 653        |
| \nfssext-cfr: Improved. . . . .              | 1035       |
| \nfssext-cfr:                                |            |
| \filenameNullify. . . . .                    | 1037, 1040 |
| \ntheorem: Warning if thref. . . . .         | 1050       |
| \parcolumns: Fixed: Missing                  |            |
| \colplacechunks. . . . .                     | 1068       |
| \realscripts: Added print mode. . . . .      | 1095       |
| \realscripts: Fixed starred                  |            |
| \textsuperscript,                            |            |
| \textsubscript. . . . .                      | 1095       |
| \realscripts: Improved supersub              |            |
| scripts. . . . .                             | 1095       |
| \rotfloat: Fix: Requires rotating. . . . .   | 1105       |
| \scrextend: Added \titlehead,                |            |
| \subject, \subtitle,                         |            |
| \published. . . . .                          | 1109       |
| \scrextend: Updated to v3.29. . . . .        | 1108       |
| \sidenotes: \sidecaption not long            |            |
| arg. . . . .                                 | 1126       |
| \slantsc: \filenameNullify. . . . .          | 1158       |
| \sympytex: Added print mode. . . . .         | 1190       |
| \titling: \AtBeginDocument. . . . .          | 1230       |
| \xpinyin: Disables pinyin when null          |            |
| fonts. . . . .                               | 1292       |
| \lwarfmk: clean also removes                 |            |
| comment_*.cut . . . . .                      | 332        |
| Added \FirstPageBottom. . . . .              | 384        |
| Added prev/next links. . . . .               | 359        |
| Docs: JETBRAIN MONO font. . . . .            | 106        |
| Docs: \linkpreviousname. . . . .             | 114        |
| Fix: Multirow style. . . . .                 | 1021       |
| Fixed: textcomp now in kernel. . . . .       | 652        |
| Logos: Only warn about graphics if           |            |
| actually use \Xe. . . . .                    | 648        |
| \tabbing: Restore spacing. . . . .           | 448        |
| \center: Added print mode. . . . .           | 605        |
| \verbatim: Added print mode. . . . .         | 448        |
| \verse: Added print mode. . . . .            | 445        |
| \flushleft: Added print mode. . . . .        | 605        |
| \flushright: Added print mode. . . . .       | 605        |
| \longtable: caption now optional. . . . .    | 956        |
| \quotation: Added print mode. . . . .        | 444        |
| \quote: Added print mode. . . . .            | 444        |
| \LWR@nestspan: Issue warnings inside         |            |
| a span. . . . .                              | 370        |

|                                                                                                                                 |     |                                                                                                                                                        |                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nullified <code>minipage</code> , <code>\parbox</code> inside<br>a <code>span</code> . . . . .                                  | 370 | v0.87                                                                                                                                                  | <code>\LWR@checkloadfilename</code> : Prevented<br><code>csvtools</code> . . . . . 256                                                                 |
| <b>v0.85</b>                                                                                                                    |     | <code>\bibliography</code> : Reverted to original. 562                                                                                                 | <code>\scshape</code> : Added <code>FixSmallCaps</code> to<br>remove <code>\LWR@print@scshape</code> for<br><code>erewhon</code> , et. al. . . . . 635 |
| <code>\LWR@atbeginverbatim</code> : Fix: Added<br>print macros for <code>fontspec</code> . . . . . 447                          |     | <code>\sishape</code> : Added <code>FixSmallCaps</code> to<br>remove <code>\LWR@print@scshape</code> for<br><code>erewhon</code> , et. al. . . . . 636 | <code>\LWR@htmlclosecomment</code> : Fix: Added<br>print macros for <code>fontspec</code> . . . . . 372                                                |
| <code>\LWR@htmlcomment</code> : Fix: Added print<br>macros for <code>fontspec</code> . . . . . 372                              |     | <code>General</code> : 2020/06/03 . . . . . 1                                                                                                          | <code>\LWR@htmlltagc</code> : Fix: Added print<br>macros for <code>fontspec</code> . . . . . 369                                                       |
| <code>\LWR@htmlltagc</code> : Fix: Added print<br>macros for <code>fontspec</code> . . . . . 369                                |     | <code>cancel</code> : Now uses MATHJAX v3<br>extension. . . . . 727                                                                                    | <code>\titlesec</code> : <code>pagestyles</code> option. . . . . 1226                                                                                  |
| <code>General</code> : 2020/05/01 . . . . . 1                                                                                   |     | <code>citeref</code> : Added. . . . . 770                                                                                                              | <code>\url</code> : Fixed print mode. . . . . 1261                                                                                                     |
| <code>\idxlayout</code> : Fixed:<br><code>\AtBeginDocument</code> for load order. 908                                           |     | <code>drftcite</code> : Added. . . . . 791                                                                                                             | <code>\Fix</code> : Added print macros for<br><code>fontspec</code> . . . . . 634                                                                      |
| <code>\titlesec</code> : <code>pagestyles</code> option. . . . . 1226                                                           |     | <code>embrac</code> : Neutralized kerning. . . . . 796                                                                                                 |                                                                                                                                                        |
| <code>\url</code> : Fixed print mode. . . . . 1261                                                                              |     | <code>\ifpdf</code> , <code>\ifptex</code> : Restored to work on<br>TL2019 and earlier. . . . . 213                                                    |                                                                                                                                                        |
| <code>\Fix</code> : Added print macros for<br><code>fontspec</code> . . . . . 634                                               |     | <code>\jurabib</code> : Added. . . . . 918                                                                                                             |                                                                                                                                                        |
| <b>v0.86</b>                                                                                                                    |     | <code>\mathtools</code> : Improved<br><code>\underbraket</code> , <code>\overbracket</code> . . . . . 982                                              |                                                                                                                                                        |
| <code>\LWR@filenamenoblocks</code> : Fix: <code>*</code> , <code>(</code> , <code>)</code> , . . .<br>in filename. . . . . 399  |     | <code>\mathtools</code> : Updated starred<br>macros. . . . . 982                                                                                       |                                                                                                                                                        |
| <code>\LWR@filestart</code> : Error if missing file. 427                                                                        |     | <code>\mhchem</code> : Now uses MATHJAX v3<br>extension. . . . . 1002                                                                                  |                                                                                                                                                        |
| <code>\LWR@href</code> : <code>hyperref</code> : Adjusted<br>emulation. . . . . 533                                             |     | <code>\multibib</code> : Added. . . . . 1015                                                                                                           |                                                                                                                                                        |
| <code>\LWR@label@createtag</code> : Fix: Labels in<br><code>eqnarray</code> . . . . . 527                                       |     | <code>\nccmath</code> : Updated starred,<br>improved <code>\underref</code> . . . . . 1031                                                             |                                                                                                                                                        |
| <code>\LWR@label@inmathcomment</code> : Fix:<br>Labels in <code>eqnarray</code> . . . . . 526                                   |     | <code>\physics</code> : Now uses MATHJAX v3<br>extension. . . . . 1081                                                                                 |                                                                                                                                                        |
| <code>\LWR@nolinkurl</code> : <code>hyperref</code> : Adjusted<br>emulation. . . . . 534                                        |     | <code>\splitbib</code> : Added. . . . . 1161                                                                                                           |                                                                                                                                                        |
| <code>\LWR@phantomsection</code> : <code>hyperref</code> :<br>Adjusted emulation. . . . . 647                                   |     | <code>\statex2</code> : <code>\pBin</code> exponent. . . . . 1168                                                                                      |                                                                                                                                                        |
| <code>\LWR@startref</code> : Fixed: <code>\label</code> inside<br><code>latextimage</code> . . . . . 529                        |     | <code>\Added</code> <code>FixSmallCaps</code> to remove<br><code>\LWR@print@scshape</code> for <code>erewhon</code> ,<br>et. al. . . . . 629           |                                                                                                                                                        |
| <code>\LWR@syncmathjax</code> : Improved<br>MATHJAX equation numbers. . . . . 584                                               |     | <code>\Docs</code> : Updated docs to compile<br><code>\l warp</code> documentation. . . . . 197                                                        |                                                                                                                                                        |
| <code>\LWR@url</code> : <code>hyperref</code> : Adjusted<br>emulation. . . . . 534                                              |     | <code>\File</code> : <code>\l warp_mathjax.txt</code> : Now<br>provides <code>\ifstar</code> , <code>\ifnextchar</code> . 328                          |                                                                                                                                                        |
| <code>\textcolor</code> : <code>xcolor</code> : <code>\textcolor</code> :<br>Fixed for <code>babel-french</code> . . . . . 1278 |     | <code>\Prevented</code> <code>csvtools</code> . . . . . 217                                                                                            |                                                                                                                                                        |
| <code>General</code> : 2020/05/12 . . . . . 1                                                                                   |     | <b>v0.88</b>                                                                                                                                           |                                                                                                                                                        |
| <code>\LWR@insidemathcomment</code> : Added. 569                                                                                |     | <code>\wrindex</code> : Added support for <code>xindex</code> . 555                                                                                    |                                                                                                                                                        |
| <code>\amsmath</code> : Added support for<br>MATHJAX. . . . . 681                                                               |     | <code>\IndexRangeSeparator</code> : Added. . . . . 554                                                                                                 |                                                                                                                                                        |
| <code>\hyperref</code> : Adjusted emulation. . . . . 901                                                                        |     | <code>\LWR@HTML@ref</code> : Added MATHJAX. . . . . 531                                                                                                |                                                                                                                                                        |
| <code>\nccmath</code> : Added <code>\displaybreak</code> . 1031                                                                 |     | Fixed: Starred. . . . . 530                                                                                                                            |                                                                                                                                                        |
| <code>\nccmath</code> : Fixed <code>\nr</code> , added<br>starred. . . . . 1031                                                 |     | <code>\LWR@LetLtxMacros</code> : Added. . . . . 237                                                                                                    |                                                                                                                                                        |
| <code>\File</code> : <code>\l warp_mathjax.txt</code> : Added<br>support for starred macros. . . . . 328                        |     | <code>\LWR@absorbstar</code> : Added. . . . . 238                                                                                                      |                                                                                                                                                        |
| <code>\File</code> : <code>\l warp_mathjax.txt</code> :<br>Improved equation numbering. . . . . 328                             |     | <code>\LWR@checkloadfilename</code> : Prevented<br><code>shadethm</code> . . . . . 256                                                                 |                                                                                                                                                        |
| <code>\File</code> : <code>\l warp_mathjax.txt</code> : Updated<br>to MATHJAX v3 current. . . . . 328                           |     | <code>\LWR@doindexentry</code> : Adapts to<br><code>gindex</code> . . . . . 559                                                                        |                                                                                                                                                        |
|                                                                                                                                 |     | <code>\LWR@doindexentrysub</code> : Adapts to<br><code>gindex</code> . . . . . 559                                                                     |                                                                                                                                                        |
|                                                                                                                                 |     | <code>\LWR@doindexentrysubsub</code> : Handles a<br>range, for <code>xindex</code> . . . . . 558                                                       |                                                                                                                                                        |

|                                                                         |      |                                                                           |          |
|-------------------------------------------------------------------------|------|---------------------------------------------------------------------------|----------|
| \LWR@forcenewautoidanchor: Inline handling.                             | 539  | xfakebold: Now works with pdffrender.                                     | 1286     |
| \LWR@hyperindexrefsubtwo: Adds support for a range, for <i>xindex</i> . | 560  | Added \vdots.                                                             | 274, 639 |
| \LWR@indexnameref: Added IndexRef option, refactored.                   | 558  | Added LWR@texboxdepth.                                                    | 236      |
| \LWR@maybe@orignewpage: Added.                                          | 236  | Added IndexRef option.                                                    | 244      |
| \LWR@printchaptername: Conditionally print \chaptername.                | 415  | Added <i>xindex</i> option.                                               | 244      |
| \LWR@restoreMathJaxformatting: Added.                                   | 562  | Option <i>xindexConfig</i> added.                                         | 242      |
| \LWR@restoreorigformatting: Added \vdots.                               | 563  | Prevented shadethm.                                                       | 217      |
| \LWR@section: Conditionally print \chaptername.                         | 419  | v0.883                                                                    |          |
| \LWR@xindex@modifyentry: Added support for <i>xindex</i> .              | 554  | General: nfssext-cfr: Fixed \textsw.                                      | 1039     |
| \hrulefill: Full line <div> if not started paragraph.                   | 640  | v0.89                                                                     |          |
| \hyperindexformat: Added.                                               | 561  | \opargbegintheorem: Allow preload of amsmath, amsthm, centernot.          | 450      |
| \hyperindexref: Rewritten to parse commas and ranges.                   | 559  | \LWR@HTMLsanitizeexpand: Fix: Nested MATHJAX environments.                | 403      |
| \hyperpage: Added.                                                      | 561  | \LWR@LwarpStart: MathJax: Improved info message.                          | 430      |
| \nohyperpage: Added.                                                    | 561  | \LWR@addmathjax: TT font for MATHJAX.                                     | 585      |
| General: 2020/07/19                                                     | 1    | \LWR@amsmathbodynumbered: \textendash for number range.                   | 597      |
| l warp.css: Added indexheading for gindex.                              | 285  | \LWR@customizeMathJax: Print MATHJAX customizations with typewriter font. | 407      |
| l warp.css: Added tcolorbox, thmbox.                                    | 285  | \LWR@doubledollar: TT font for MATHJAX.                                   | 579      |
| amsmath: Added \dotso text mode.                                        | 677  | \LWR@patcherror: Improved message.                                        | 234      |
| amsthm: Requires amsmath.                                               | 682  | \LWR@singledollar: TT font for MATHJAX.                                   | 580      |
| caption, scrlttr2: Fixed \caption*.                                     | 730  | \LWR@subsingledollar: TT font for MATHJAX.                                | 578      |
| cleveref, varioref: Fix for starred macros.                             | 774  | \enddocument: Adapt to LATEX core changes.                                | 432      |
| fancyref: Now uses varioref which ignores page-related output.          | 826  | General: 2020/09/03                                                       | 1        |
| fbox: Added.                                                            | 834  | accents: Added.                                                           | 664      |
| gindex: Added.                                                          | 872  | atbegshi: Adapt to LATEXkernel changes.                                   | 693      |
| hhtensor: Added.                                                        | 895  | caption3: Split from l warp-caption.                                      | 730      |
| mleftright: Added.                                                      | 1011 | caption: Adapt to v3.5.                                                   | 728      |
| pdffrender: Restored for xfakebold.                                     | 1077 | centernot: Improved.                                                      | 734      |
| shadethm: Added.                                                        | 1122 | econometrics: Uses l warp-common-mathjax-letters.                         | 793      |
| tcolorbox: Added.                                                       | 1198 | everyshi: Adapt to LATEXkernel changes.                                   | 818      |
| termcal: Added.                                                         | 1205 | everyshi: Included in LATEX core.                                         | 652      |
| thm-listof: Added.                                                      | 1215 | hepunits: Added.                                                          | 893      |
| thm-restate: Added.                                                     | 1216 | l warp-common-mathjax-letters: Added.                                     | 1334     |
| thmbox: Added.                                                          | 1216 | l warp-common-mathjax-newptxmath: Added.                                  | 1341     |
| ushort: Added.                                                          | 1262 | l warp-common-mathjax-overlaysymbols: Added.                              | 1350     |
| varioref: Removed page-related text.                                    | 1262 | mathalpha: Added.                                                         | 973      |
|                                                                         |      | mathdesign: Added.                                                        | 975      |

|                                                                           |                  |
|---------------------------------------------------------------------------|------------------|
| mathpazo: Added.                                                          | 978              |
| mathptmx: Added.                                                          | 978              |
| mismath: Improved math operators.                                         | 1008             |
| newpxmath: Added.                                                         | 1032             |
| newtxmath: Added.                                                         | 1033             |
| newtxsf: Added.                                                           | 1034             |
| pxfonts: Added.                                                           | 1092             |
| shuffle: Added.                                                           | 1124             |
| siunitx: Fix: MATHJAX for \tothe, \raiseto.                               | 1145             |
| siunitx: Unicode for endash.                                              | 1148             |
| statmath: Fixed abc <sub>n</sub> , uses l warp-common-mathjax-letters.    | 1177             |
| thm-listof: Updated to v0.72.                                             | 1215             |
| thm-restate: Updated to v0.72, no changes needed.                         | 1216             |
| thmtools: Added.                                                          | 1217             |
| txfonts: Added.                                                           | 1250             |
| upgreek: Added.                                                           | 1261             |
| <i>l warpmk</i> : clean also removes *.bbl                                | 332              |
| Allow preload of amsmath, amsthm, centernot.                              | 220, 652         |
| AMS environments: Fix: <ALT> text env name.                               | 678              |
| Foreground/background hooks: Adapt to L A T E X core changes.             | 433              |
| MATHJAX: Added \protect, and \mathcode and related.                       | 406              |
| Removed \let of \[, \].                                                   | 582              |
| eqnarray: \textendash for number range.                                   | 593              |
| v0.891                                                                    |                  |
| \LWR@atbeginverbatim: Fix for verbatim, alltt with lists                  | 447              |
| \LWR@checkfilename: Prevented libgreek.                                   | 256              |
| \LWR@excludecomment: Error if nested comment.                             | 248              |
| \LWR@subHTMLsanitize: Neutralized single quotes.                          | 402              |
| \verb: \verb as \texttt.                                                  | 446              |
| General: 2020/09/22                                                       | 1                |
| bilatek: Fixed: Back page references.                                     | 713              |
| bussproofs: Added.                                                        | 726              |
| caption: Improved integration.                                            | 730              |
| cmbright: Added.                                                          | 775              |
| colonequals: Uses Unicode and \mathrel.                                   | 776              |
| fancyvrb: Fix: BVerbatim with labels.                                     | 829              |
| fourier: Added.                                                           | 860              |
| hyperref: Added backref, pagebackref.                                     | 897              |
| hyperref: Fixed \texorpdfstring with babel-french.                        | 905              |
| kpfonts-otf: Added.                                                       | 931              |
| kpfonts: Added.                                                           | 930              |
| libertinust1math: Added.                                                  | 938              |
| listings: Fix for MATHJAX: Moved \LWR@forcenewpage to start.              | 948, 950         |
| listings: Improved HTML sanitizing.                                       | 948              |
| listings: Improved spacing around ampersand.                              | 948              |
| l warp-common-mathjax-newpxmath: Expanded for kpfonts.                    | 1342–1344, 1347  |
| l warp-common-mathjax-newpxmath: Factored non-UNICODE.                    | 1343, 1344, 1346 |
| l warp-common-mathjax-newpxmath: Reverse factored out Greek, non-UNICODE. | 1341             |
| l warp-common-mathjax-nonunicode: Added.                                  | 1347             |
| mathdesign: Added \mathinner, \mathbin.                                   | 976              |
| mathdesign: Added \mathop.                                                | 976              |
| mathdesign: Added \mathrel, \mathord.                                     | 976              |
| mathdesign: Honors greekuppercase, greeklowercase.                        | 976              |
| mathdots: Added more macros, \mathinner.                                  | 977              |
| mathfixs: Added \mathinner.                                               | 977              |
| mathpazo: Honors slantedGreek.                                            | 978              |
| mathptmx: Honors slantedGreek.                                            | 978              |
| mathtools: Improved \underbraket, \overbracket.                           | 982              |
| multiobjective: Improved.                                                 | 1018             |
| newpxmath: Honors uprightGreek, slantedGreek.                             | 1032, 1034       |
| newtxmath: Honors uprightGreek, slantedGreek.                             | 1033             |
| nicefrac: Added \mathinner, improved fraction.                            | 1042             |
| scalerel: Added.                                                          | 1107             |
| shuffle: Added \mathbin, improved bar.                                    | 1125             |
| txgreeks: Added.                                                          | 1250             |
| unicode-math: Added sans-style.                                           | 1257             |
| units: Added \mathinner, improved fraction.                               | 1260             |
| File: l warp_mathjax.txt: Renamed tagformat extension.                    | 328              |

|                                                                                            |            |
|--------------------------------------------------------------------------------------------|------------|
| Prevented libgreek. . . . .                                                                | 217        |
| BVerbatim: fancyvrb: Fix: BVerbatim<br>with labels. . . . .                                | 834        |
| v0.892                                                                                     |            |
| \LWR@subhtmlelementclass: Ignore<br>empty class. . . . .                                   | 373        |
| \fcolorbox: xcolor: Fixed second<br>optional arg. . . . .                                  | 1280       |
| \fcolorboxBlock: xcolor: Fixed<br>second optional arg. . . . .                             | 1280       |
| General: 2020/10/07 . . . . .                                                              | 1          |
| fancyvrb: Adapted to fextra. . . . .                                                       | 833, 834   |
| fancyvrb: Provided<br>\fv@FrameFillLine. . . . .                                           | 832        |
| fourier: Added \left/\right<br>support in lwp_mathjax.txt. . . . .                         | 861        |
| fextra: Added. . . . .                                                                     | 866        |
| graphics: Fix path from kernel<br>change. . . . .                                          | 885        |
| libertinustmath: Added \left/<br>\right support in<br>lwp_mathjax.txt. . . . .             | 939        |
| lineno: Fix for<br>internallinenumbers*. . . . .                                           | 944        |
| lwp-common-mathjax-newpxmath:<br>Added \left/\right support in<br>lwp_mathjax.txt. . . . . | 1342, 1345 |
| minted: Added. . . . .                                                                     | 1006       |
| unicode-math: Adeed MATHJAX<br>support for \left/\right. . . . .                           | 1258       |
| File: lwp_mathjax.txt: Added<br>\left/\right delimiters. . . . .                           | 328        |
| \fcolorminipage: xcolor: Fixed second<br>optional arg. . . . .                             | 1281       |
| v0.893                                                                                     |            |
| \LWR@checkloadfilename: Allowed<br>picinpar. . . . .                                       | 256        |
| \LWR@expandableformatted:<br>Improved error handling. . . . .                              | 269        |
| \LWR@expandableformattedenv:<br>Improved error handling. . . . .                           | 269        |
| \LWR@formatted: Improved error<br>handling. . . . .                                        | 268        |
| \LWR@formatted@checkendname:<br>Added. . . . .                                             | 268        |
| \LWR@formatted@checkname: Added. . . . .                                                   | 267        |
| \LWR@formattedenv: Improved error<br>handling. . . . .                                     | 269        |
| \LWR@htmlcomment: Disabled in math<br>mode. . . . .                                        | 372        |
| \LWR@subHTMLsanitize: Optionally<br>neutralized single quotes. . . . .                     | 402        |
| General: 2020/11/26 . . . . .                                                              | 1          |
| MATHJAX: Added \mathnormal. . . . .                                                        | 405        |
| lwp.css: Added keystroke. . . . .                                                          | 285        |
| braket: Now uses MATHJAX<br>extension. . . . .                                             | 723        |
| caption3: Updated date to v2.2e. . . . .                                                   | 730        |
| caption: Updated date to v3.5g. . . . .                                                    | 728        |
| epstopdf-base: Updated date to<br>v2.11. . . . .                                           | 810        |
| epstopdf: Updated date to v2.11. . . . .                                                   | 809        |
| esvect: Added. . . . .                                                                     | 814        |
| fixmath: Added. . . . .                                                                    | 839        |
| graphics: Updated date to v1.4c. . . . .                                                   | 876        |
| graphicx: Updated date to v1.2b. . . . .                                                   | 889        |
| keystroke: Added. . . . .                                                                  | 928        |
| lwp-common-mathjax-letters:<br>Added \varbeta. . . . .                                     | 1334       |
| mathastext: Added. . . . .                                                                 | 974        |
| mathspec: Added. . . . .                                                                   | 979        |
| menukeys: Added. . . . .                                                                   | 999        |
| menukeys: Updated to v1.6.1. . . . .                                                       | 1000       |
| picinpar: Added. . . . .                                                                   | 1083       |
| plimsoll: Added. . . . .                                                                   | 1088       |
| pstricks: Fixed pspicture*. . . . .                                                        | 1091       |
| repltext: Added. . . . .                                                                   | 1102       |
| schemata: Added <alt> text. . . . .                                                        | 1108       |
| selectp: Added. . . . .                                                                    | 1119       |
| seqsplit: Added. . . . .                                                                   | 1120       |
| simplebnf: Added. . . . .                                                                  | 1127       |
| statistics: Added. . . . .                                                                 | 1172       |
| struktex: Removed package date.                                                            | 1180       |
| svg: Updated date to v2.02j. . . . .                                                       | 1189       |
| swfigure: Added. . . . .                                                                   | 1189       |
| tikz: Fixed font macros. . . . .                                                           | 1221       |
| tocloft: Fix: \cftpagenumbersoff,<br>\cftpagenumberson. . . . .                            | 1242       |
| Allowed picinpar. . . . .                                                                  | 217        |
| v0.894                                                                                     |            |
| \LWR@forceSVGmessage: Improved<br>MATHJAX warnings. . . . .                                | 658        |
| \LWR@mathjaxwarn: Improved<br>MATHJAX warnings. . . . .                                    | 658        |
| General: 2020/12/24 . . . . .                                                              | 1          |
| MATHJAX: Accept starred \hspace. . . . .                                                   | 406        |
| MATHJAX: Added \arabic, \number,<br>\noalign. . . . .                                      | 405        |
| lwp.css: TEX logos no longer<br>below baseline. . . . .                                    | 285        |
| booktabs: MATHJAX: Absorb<br>\cmidrule trim arg. . . . .                                   | 722        |
| colortbl: Added MATHJAX<br>emulation. . . . .                                              | 779        |
| nicematrix: Added. . . . .                                                                 | 1043       |
| rmathbr: Updated to v1.1. . . . .                                                          | 1103       |
| v0.895                                                                                     |            |
| \LWR@addlinktitle: Improved HTML<br>quotes. . . . .                                        | 529        |

|                                          |           |
|------------------------------------------|-----------|
| \LWR@checkloadfilename: kpfonts          |           |
| load before \warp. . . . .               | 256       |
| Allowed epsf. . . . .                    | 256       |
| \LWR@domulticolumn: Improved HTML        |           |
| quotes. . . . .                          | 504, 505  |
| \LWR@floatbegin: Improved HTML           |           |
| quotes. . . . .                          | 537       |
| \LWR@forceSVGmessage: Improved           |           |
| MATHJAX warning. . . . .                 | 658       |
| \LWR@forcenewautoidanchor:               |           |
| Improved HTML quotes. . . . .            | 539       |
| \LWR@hook@processingtags: Added.         | 367       |
| \LWR@label@subcreatetag: Improved        |           |
| HTML quotes. . . . .                     | 526       |
| \LWR@mathjaxwarn: Added MATHJAX          |           |
| warnings for aligned-overset,            |           |
| autoaligne, boldtensors,                 |           |
| liberitinustmath, tensind. . . . .       | 658       |
| Improved MATHJAX warning for             |           |
| unicode-math. . . . .                    | 658       |
| \LWR@maybenewtablerow: Improved          |           |
| HTML quotes. . . . .                     | 486       |
| \LWR@printatbang: Improved HTML          |           |
| quotes. . . . .                          | 487       |
| \LWR@printopenlist: Improved HTML        |           |
| quotes. . . . .                          | 451       |
| \LWR@startref: Improved HTML             |           |
| quotes. . . . .                          | 529, 530  |
| \LWR@subaddtabularcellcolor:             |           |
| Improved HTML quotes. . . . .            | 498       |
| \LWR@subhyperref: Improved HTML          |           |
| quotes. . . . .                          | 533       |
| \LWR@subhyperrefclass: Improved          |           |
| HTML quotes. . . . .                     | 533       |
| \LWR@subinlineimage: Improved            |           |
| HTML quotes. . . . .                     | 534       |
| \LWR@tabledatasinglecolumntag:           |           |
| Improved HTML quotes. . . . .            | 489       |
| \LWR@tdaddstyle: Improved HTML           |           |
| quotes. . . . .                          | 492       |
| \LWR@tdendstyles: Improved HTML          |           |
| quotes. . . . .                          | 493       |
| \hspace: Improved HTML quotes. . .       | 643       |
| \rotatebox: Improved HTML quotes.        | 887       |
| \rule: Improved HTML quotes. . .         | 646       |
| \scalebox: Improved HTML quotes.         | 888       |
| \verb: Improved HTML quotes. . .         | 446       |
| General: 2021/02/18 . . . . .            | 1         |
| acro: Updated to v3.5. . . . .           | 667       |
| amscdx: Added. . . . .                   | 677       |
| amsmath: Added \hat, etc.. . . .         | 681       |
| changes: Updated to v4.0.1. . . .        | 736       |
| epsfig: Supports lateximage. . . .       | 809       |
| epsf: Added. . . . .                     | 808       |
| fancyhdr: Updated to v4.0. . . . .       | 824       |
| impnattypo: Added. . . . .               | 914       |
| isomath: Added. . . . .                  | 916       |
| isotope: Added. . . . .                  | 917       |
| libertinustmath: MATHJAX: Fixed          |           |
| for Greek, ignoring sans. . . . .        | 938, 939  |
| \pic: Added. . . . .                     | 958       |
| \luavlna: Added. . . . .                 | 966       |
| \mattens: Added. . . . .                 | 985       |
| \mdwmath: Added. . . . .                 | 996       |
| \pinlabel: Added. . . . .                | 1085      |
| \rlepsf: Added. . . . .                  | 1103      |
| \rotating: Supports lateximage. .        | 1105      |
| \siunitx, MATHJAX: Scientific            |           |
| notation. . . . .                        | 1145      |
| \siunitx, MATHJAX: \num sci notation,    |           |
| multiples, +-, decimals, comma. .        | 1145      |
| \siunitx: Fix: MATHJAX for \ang. .       | 1145      |
| \siunitx: MATHJAX: \SI prefix            |           |
| parsing. . . . .                         | 1148      |
| \skmath: Added. . . . .                  | 1152      |
| \tensor: Added MATHJAX. . . . .          | 1203      |
| \tikz-imagelabels: Added. . . . .        | 1222      |
| \xevlna: Added. . . . .                  | 1285      |
| \allow \par. . . . .                     | 1021      |
| \allowed epsf. . . . .                   | 217       |
| \File: \warp_mathjax.txt: Added          |           |
| \ifblank, \ifstreq macros. . . . .       | 328       |
| \Fixed libertinus-otf \textquotedbl      |           |
| kern. . . . .                            | 274       |
| \Improved HTML quotes. . . . .           | 272, 367, |
| 675, 830, 882,                           |           |
| 883, 891, 901, 902, 950, 990, 1020, 1053 |           |
| \Use kpfonts-otf if LuaLaTeX,            |           |
| XeLaTeX. . . . .                         | 233       |
| \lateximage: Improved HTML quotes.       | 600       |
| \minipage: Improved HTML quotes. .       | 620       |
| \enumerate: Improved HTML quotes.        | 455       |
| \itemize: Improved HTML quotes. . .      | 454       |
| v0.896                                   |           |
| \@begintheorem: Intersperse              |           |
| footnotes. . . . .                       | 449       |
| \@currentHref: backref: Improved         |           |
| back refs. . . . .                       | 532       |
| \@endtheorem: Intersperse footnotes.     | 450       |
| \LWR@footnotetext: Fix: autopage         |           |
| references in footnotes. . . . .         | 390       |
| \LWR@printpendingfootnotes:              |           |
| Added ARIA role. . . . .                 | 392       |
| Fix: Backref to footnote. . . . .        | 392       |
| \LWR@LwarpEnd: Added <main>. . .         | 431       |
| Fix: Footnotes at end of document.       | 431       |
| \LWR@LwarpStart: Added <main>. . .       | 429       |
| \LWR@currentautosecpageref:              |           |
| Added. . . . .                           | 525       |
| \LWR@doequation: Added ARIA role.        | 587       |

|                               |                             |            |
|-------------------------------|-----------------------------|------------|
| \LWR@doubledollar:            | Added ARIA role.            | 579        |
| Fix: Displaymath notes with   |                             |            |
| MATHJAX.                      | .....                       | 579        |
| \LWR@firstoffive:             | Changed to                  |            |
| firstoffive instead of four.  | .....                       | 235        |
| \LWR@htmldivclass:            | Added ARIA role.            | 374        |
| \LWR@htmlelementclass:        | Added ARIA                  |            |
| role.                         | .....                       | 373        |
| \LWR@htmlspanclass:           | Added ARIA                  |            |
| role.                         | .....                       | 371        |
| \LWR@lateximage@oneimage:     | Added                       |            |
| ARIA role.                    | .....                       | 598        |
| \LWR@lateximage@oneimageb:    | Added                       |            |
| ARIA role.                    | .....                       | 598        |
| \LWR@new@label:               | Revert to a simple          |            |
| \newcommand*.                 | .....                       | 528        |
| \LWR@newautopagelabel:        | Fix: Refs if                |            |
| page changed.                 | .....                       | 395        |
| \LWR@newhtmlfile:             | Added                       |            |
| <main>.                       | .....                       | 408, 411   |
| \LWR@null@newautopagelabel:   | Fix:                        |            |
| Refs in footnotes.            | .....                       | 396        |
| \LWR@nullfonts:               | Added ARIA role.            | ..         |
| Added groups.                 | .....                       | 567        |
| \LWR@popclose:                | Stack 19 deep.              | ....       |
| ....                          | 354                         |            |
| \LWR@printpendingmpfootnotes: |                             |            |
| Added ARIA role.              | .....                       | 393        |
| \LWR@pushclose:               | Error if stack              |            |
| overflow.                     | .....                       | 353        |
| Stack 19 deep.                | .....                       | 353        |
| \LWR@refwithsection:          | Added.                      | ....       |
| ....                          | 531                         |            |
| \LWR@subhtmlelementclass:     | Added                       |            |
| ARIA role.                    | .....                       | 373        |
| \LWR@subinlineimage:          | Added ARIA                  |            |
| role.                         | .....                       | 534        |
| \LWR@subsingledollarsvg:      | Added                       |            |
| ARIA role.                    | .....                       | 575        |
| \LWR@synconenotename:         | Fix:                        |            |
| MATHJAX:                      | Footnote names.             | ....       |
| ....                          | 588                         |            |
| \LWR@write@lwarplabel:        | Added                       |            |
| \LWR@currentautosecpage.      | ....                        | 526        |
| \LWRPrintStack:               | Stack 19 deep.              | ....       |
| ....                          | 364                         |            |
| \RequirePackage:              | Warn if package             |            |
| option has braces.            | .....                       | 259        |
| \marginpar:                   | Added ARIA role.            | ....       |
| ....                          | 394                         |            |
| \marginparBlock:              | Added ARIA role.            | 394        |
| \mbox:                        | Added a group.              | .....      |
| ....                          | 623                         |            |
| General:                      | 2021/04/08                  | .....      |
| ....                          | 1                           |            |
| lwarf.css:                    | Added <main>, adjusted      |            |
| <sidetoccontainer> margin.    | ..                          | 285        |
| 808                           |                             |            |
| amsthm:                       | Improved back refs.         | 684, 686   |
| amsthm:                       | Intersperse                 |            |
| footnotes.                    | .....                       | 684–686    |
| backref:                      | Improved backrefs.          | ....       |
| ....                          | 703                         |            |
| biblatex:                     | Fix: Back references.       | ...        |
| ....                          | 712                         |            |
| biblatex:                     | Fix: Citation references.   | 712        |
| biblatex:                     | Improved refs: \ref to      |            |
| \LWR@refwithsection.          | .....                       | 713        |
| bigdelim:                     | Updated to v2.8.            | ....       |
| ....                          | 716                         |            |
| ccicons:                      | Added.                      | .....      |
| ....                          | 733                         |            |
| chemfig:                      | Updated to v1.6a.           | ..         |
| ....                          | 742, 743                    |            |
| citeref:                      | Improved refs: \ref to      |            |
| \LWR@refwithsection.          | .....                       | 770        |
| classicthesis:                | Added.                      | .....      |
| ....                          | 771                         |            |
| cleveref:                     | Undo memoir changes.        | 774        |
| cleveref:                     | Undo subfig changes.        | ....       |
| ....                          | 774                         |            |
| enotez:                       | Added.                      | .....      |
| ....                          | 804                         |            |
| fancybox:                     | Fix: autopage references    |            |
| in footnotes.                 | .....                       | 820        |
| floatflt:                     | Added ARIA role.            | ....       |
| ....                          | 843                         |            |
| hyperref:                     | Fix: Added                  |            |
| \*autorefname macros.         | .....                       | 904        |
| hyperref:                     | Fix: No \hyperlink in       |            |
| HTML comment.                 | .....                       | 903        |
| hyperxmp:                     | Added keys.                 | .....      |
| ....                          | 906                         |            |
| keyfloat:                     | Added ARIA role.            | ..         |
| ....                          | 927, 928                    |            |
| listings:                     | Escapes accepted but        |            |
| disabled.                     | .....                       | 948        |
| listings:                     | Fix: Labels.                | .....      |
| ....                          | 949                         |            |
| lwarf-patch-memoir:           | Added ARIA                  |            |
| role.                         | .....                       | 1317       |
| natbib:                       | Fix: Citation references..  | 1029       |
| ntheorem:                     | Intersperse                 |            |
| footnotes.                    | .....                       | 1051, 1059 |
| orcidlink:                    | Added.                      | .....      |
| ....                          | 1062                        |            |
| parnotes:                     | Added ARIA role.            | ....       |
| ....                          | 1069                        |            |
| pdflscape:                    | Fix: Added landscape.       | 1074       |
| picinpar:                     | Added ARIA role.            | ....       |
| ....                          | 1083                        |            |
| scrlayer-scrpage:             | Added \automark,            |            |
| \manualmark.                  | .....                       | 1115       |
| scrlayer-scrpage:             | Added                       |            |
| \headmark, \pagemark.         | ....                        | 1115       |
| theorem:                      | Intersperse                 |            |
| footnotes.                    | .....                       | 1214, 1215 |
| threeparttable:               | Fix: \TPTL@tnotex           |            |
| if not referable.             | .....                       | 1219       |
| tocloft:                      | Fix: \cftpagenumbersoff,    |            |
| \cftpagenumberson with        |                             |            |
| memoir.                       | .....                       | 1242       |
| wrapfig:                      | Added ARIA role.            | ....       |
| ....                          | 1272                        |            |
| Docs:                         | Theorem references.         | ....       |
| ....                          | 163                         |            |
| Fix:                          | autopage references in      |            |
| footnotes.                    | .....                       | 828        |
| Stack 19 deep.                | .....                       | 351, 352   |
| latextimage:                  | Added ARIA role.            | ..         |
| ....                          | 599, 604                    |            |
| center:                       | Spurious space in a <span>. | 605        |
| description:                  | Fix: Footnotes inside       |            |
| description label.            | .....                       | 456        |
| minipage:                     | Improved back refs.         | ....       |
| ....                          | 621                         |            |

|                                                                      |           |                                                                      |          |
|----------------------------------------------------------------------|-----------|----------------------------------------------------------------------|----------|
| BlockClass: Added ARIA role. . . . .                                 | 375       | latexitimage: Reduced underfull \hbox warnings. . . . .              | 600      |
| flushleft: Spurious space in a <span>. . . . .                       | 605       | \LWR@figcaption: Reduced underfull \hbox warnings. . . . .           | 542      |
| flushright: Spurious space in a <span>. . . . .                      | 605       | v0.899                                                               |          |
| \LWR@BlockClassWP: Added ARIA role. . . . .                          | 376       | \LWR@l warp Start: Warn if l warp package not detected. . . . .      | 429      |
| \LWR@displaymathother: Added ARIA role. . . . .                      | 582       | General: 2021/06/29 . . . . .                                        | 1        |
| \LWR@equationother: Added ARIA role. . . . .                         | 582       | l warp.css: Improved multicol. . . . .                               | 285      |
| \LWR@nestspan: Issue BlockClassWP warning inside a span. . . . .     | 370       | graphics: Supports keepaspectratio. . . . .                          | 878, 885 |
| v0.897                                                               |           | keyfloat: Fix: lw w/ h. . . . .                                      | 924      |
| \LWR@afterloadnever: Refactored. . . . .                             | 216       | \l warp mk: Warn if l warp package not detected. . . . .             | 332      |
| \LWR@checkloadfilename: Refactored. . . . .                          | 256       | v0.900                                                               |          |
| \LWR@checkloadnever: Refactored. . . . .                             | 219       | \LWR@addmathjax: Fix: alignat with MATHJAX. . . . .                  | 585      |
| \LWR@checkloadnevers: Refactored. . . . .                            | 217       | \LWR@filestart: Spurrious space. . . . .                             | 427      |
| \LWR@earlyclassloadnever: Replacements now optional. . . . .         | 216       | General: 2021/07/17 . . . . .                                        | 1        |
| \LWR@earlyloadnever: Refactored. . . . .                             | 216       | changes: Updated to v4.2.1. . . . .                                  | 736      |
| \LWR@listof: Improved compatibility with newfloat, keyfloat. . . . . | 548       | froufrou: Updated to v1.4.0. . . . .                                 | 864      |
| \LWR@loadnever: Replacements now optional. . . . .                   | 215       | lipsum: Added. . . . .                                               | 947      |
| \RequirePackage: Fixed warning. . . . .                              | 259       | Fix: alignat with MATHJAX. . . . .                                   | 678      |
| General: 2021/05/24 . . . . .                                        | 1         | Fix: flalign name. . . . .                                           | 699      |
| centerlastline: Added. . . . .                                       | 734       | v0.901                                                               |          |
| decorule: Added. . . . .                                             | 786       | \HTMLnewcolumntype: Improved \newcolumntype emulation. . . . .       | 481      |
| fancypar: Added. . . . .                                             | 825       | \LWR@checkmathcolpar: Error if math in column specifier. . . . .     | 473      |
| fixme: Modified \AtBeginDocument. . . . .                            | 840       | \LWR@formatted@checkendname: Improved error handling. . . . .        | 268      |
| float: Improved compatibility with newfloat, keyfloat. . . . .       | 843       | \LWR@formatted@checkname: Improved error handling. . . . .           | 267      |
| froufrou: Added. . . . .                                             | 864       | \LWR@modifycolumntype: Improved \newcolumntype emulation. . . . .    | 478      |
| pbalance: Added. . . . .                                             | 1070      | \LWR@parseaftercolumn: Error if math in column specifier. . . . .    | 474      |
| siunitx-v2: Do not use math mode. . . . .                            | 1140      | \LWR@parsebeforecolumn: Error if math in column specifier. . . . .   | 473      |
| siunitx-v2: Regular group instead of color group. . . . .            | 1139      | Tabular cell text alignment. . . . .                                 | 474      |
| siunitx-v2: Rollback for v2. . . . .                                 | 1139      | \LWR@parsenormalcolumn: Improved \newcolumntype emulation. . . . .   | 476      |
| siunitx: Rollback for v2. . . . .                                    | 609, 1137 | \LWR@parseablecols: Improved \newcolumntype emulation. . . . .       | 484      |
| v0.898                                                               |           | \LWR@printmccoldata: Improved \newcolumntype emulation. . . . .      | 501      |
| \LWR@atbeginverbatim: Reduced underfull \hbox warnings. . . . .      | 447       | \LWR@printmccoltype: Improved \newcolumntype emulation. . . . .      | 500      |
| \LWR@beginhideamsmath: Reduced underfull \hbox warnings. . . . .     | 591       | \LWR@tableddatasinglecolumntag: Tabular cell text alignment. . . . . | 489      |
| \LWR@hidelatexequation: Reduced underfull \hbox warnings. . . . .    | 585       | General: 2021/08/27 . . . . .                                        | 1        |
| General: 2021/05/29 . . . . .                                        | 1         | l warp.css: Improved captions. . . . .                               | 285      |
| listings: Reduced underfull \hbox warnings. . . . .                  | 949       | l warp.css: Tabular cell text alignment. . . . .                     | 285      |
| wrapfig: Improved integration with keyfloat. . . . .                 | 1272      | array: Fixed if array already loaded. . . . .                        | 690      |
| Reduced underfull \hbox warnings. . . . .                            | 884       |                                                                      |          |

|                                                                                      |          |
|--------------------------------------------------------------------------------------|----------|
| array: Improved \newcolumntype<br>emulation. . . . .                                 | 690      |
| array: Now required. . . . .                                                         | 651      |
| centernot: Now uses MATHJAX 3.2<br>package. . . . .                                  | 734      |
| dcolumn: Works inside<br>lateximage. . . . .                                         | 785      |
| gensymb: Use MATHJAX 3.2<br>package. . . . .                                         | 870      |
| keyfloat: More room. . . . .                                                         | 927      |
| ltjptascmac: Added. . . . .                                                          | 955      |
| mathtools: Uses MATHJAX 3.2<br>package. . . . .                                      | 982      |
| mwe: Added. . . . .                                                                  | 1026     |
| nicematrix: Added \Hline. . . . .                                                    | 1045     |
| siunitx: Improved \newcolumntype<br>emulation. . . . .                               | 1139     |
| tabularx: Improved<br>\newcolumntype emulation. . . . .                              | 1192     |
| tabulary: Improved<br>\newcolumntype emulation. . . . .                              | 1193     |
| textcomp: Uses MathJax 3.2<br>package. . . . .                                       | 1210     |
| upgreek: Use MATHJAX package. . . . .                                                | 1261     |
| xcolor: Moved \LWR@formatted. . . . .                                                | 615      |
| Added print versions of<br>\LWR@formatted, etc. . . . .                              | 270      |
| warpsvg: Added. . . . .                                                              | 249      |
| v0.902                                                                               |          |
| \@makefntext: Fixed: Footnotes<br>inside square brackets. . . . .                    | 389      |
| \@mpfootnotetext: Improved par<br>tags. . . . .                                      | 392      |
| \LWR@footnotetext: Improved<br>footnote par tags. . . . .                            | 391      |
| \LWR@closeparagraph: Improved<br>parnotes. . . . .                                   | 380      |
| \LWR@nameref: Disable footnotes in<br>\nameref. . . . .                              | 525      |
| \LWR@openparagraph: Improved<br>parnotes. . . . .                                    | 379      |
| Improved par tags. . . . .                                                           | 379      |
| \LWR@restoreorigformatting:<br>Improved minipage footnotes. . . . .                  | 564      |
| \LWR@startpars: Cleared hook before<br>adding. . . . .                               | 382      |
| \maketitle: Now named<br>\LWR@maketitle to avoid being<br>overwritten later. . . . . | 440      |
| \textnormal: Reduce nested spans. . . . .                                            | 632      |
| General: 2021/10/01 . . . . .                                                        | 1        |
| lwarf.css: Added textnormal. . . . .                                                 | 285      |
| lwarf.css: Added beamerarticle. . . . .                                              | 285      |
| lwarf.css: Centered <div><br>author. . . . .                                         | 285      |
| amsthm: Fixed empty<br>theoremendmark <span>. . . . .                                | 686      |
| beamerarticle: Added. . . . .                                                        | 709      |
| fancybox: Improved footnote par<br>tags. . . . .                                     | 821      |
| fancyvrb: Improved footnote par<br>tags. . . . .                                     | 828, 829 |
| footnote: Fixed missing number. . . . .                                              | 857      |
| footnote: Improved par tags. . . . .                                                 | 856, 857 |
| luatexko: Removed deprecated<br><rb>. . . . .                                        | 962      |
| luatexko: Updated to v3.3. . . . .                                                   | 961      |
| memoir: Fixed \memorigpar. . . . .                                                   | 1312     |
| multimedia: Added<br>\hyperlinksound,<br>\hyperlinkmute. . . . .                     | 1018     |
| sympytex: Improved sympyblock. . . . .                                               | 1190     |
| xetexko: Updated to v4.0. . . . .                                                    | 1285     |
| xpinyin: Removed deprecated<br><rb>. . . . .                                         | 1291     |
| Fixed: Footnotes inside square<br>brackets. . . . .                                  | 389      |
| Forbid beamer. . . . .                                                               | 219      |
| Improved footnote par tags. . . . .                                                  | 389      |
| Improved footnotes. . . . .                                                          | 619      |
| Improved par tags. . . . .                                                           | 378      |
| MATHJAX: Added std. intl. symbols. . . . .                                           | 406      |
| lateximage: Improved footnotes. . . . .                                              | 602      |
| Removed varwidth. . . . .                                                            | 604      |
| description: Improved footnotes. . . . .                                             | 456      |
| minipage: Improved footnotes. . . . .                                                | 622      |

# Index of Objects

This is an index of macros, environments, booleans, counters, lengths, packages, classes, options, keys, files, and various other programming objects. Each is listed by itself, and also by category. In some cases, they are further subdivided by [class].

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition.

| Symbols                           |                                                   |                                   |
|-----------------------------------|---------------------------------------------------|-----------------------------------|
| \\$ . . . . .                     | <i>570</i>                                        | \@starttoc . . . . .              |
| \& . . . . .                      | <u>358</u> , <u>8761</u>                          | \@textsubscript . . . . .         |
| \( . . . . .                      | <u>11811</u>                                      | \@textsuperscript . . . . .       |
| *-images.txt (file) . . . . .     | <i>599</i>                                        | \@title . . . . .                 |
| *_html.aux (file) . . . . .       | <i>395</i> , <i>523</i> , <i>525</i> , <i>599</i> | \@wrglossary . . . . .            |
| *_html.lof (file) . . . . .       | <i>541</i>                                        | \@wrindex . . . . .               |
| *_html.lot (file) . . . . .       | <i>541</i>                                        | \@xdlbfloating . . . . .          |
| *_html.tex (file) . . . . .       | <i>278</i>                                        | \@xfloating . . . . .             |
| \, . . . . .                      | <i>128</i>                                        | \[ . . . . .                      |
| --shell-escape (option) . . . . . | <i>104</i>                                        | \\\ . . . . .                     |
| \@@@setcpageref . . . . .         | <i>39</i>                                         | \\$ . . . . .                     |
| \@@@setcref . . . . .             | <i>2</i>                                          | \\$\\$ . . . . .                  |
| \@@@setcrefrange . . . . .        | <i>17</i>                                         | 2in1 (package) . . . . .          |
| \@author . . . . .                | <i>434</i>                                        | 2up (package) . . . . .           |
| \@begintheorem . . . . .          | <i>8385</i>                                       |                                   |
| \@biblabel . . . . .              | <i>11257</i>                                      | A                                 |
| \@caption . . . . .               | <i>10683</i>                                      | a4 (package) . . . . .            |
| \@capttype . . . . .              | <i>10660</i>                                      | a4wide (package) . . . . .        |
| \@chapcntformat . . . . .         | <i>7472</i>                                       | a5comb (package) . . . . .        |
| \@currentHref . . . . .           | <i>10459</i>                                      | abstract (environment) . . . . .  |
| \@currentlabelname . . . . .      | <i>10255</i>                                      | abstract (package) . . . . .      |
| \@date . . . . .                  | <i>434</i>                                        | \abstractname . . . . .           |
| \@donoparitem . . . . .           | <i>8417</i>                                       | academicons (package) . . . . .   |
| \@endtheorem . . . . .            | <i>8400</i>                                       | accents (package) . . . . .       |
| \@ensuredmath . . . . .           | <i>11821</i>                                      | accessibility (package) . . . . . |
| \@fnssymbol . . . . .             | <i>8119</i>                                       | accsupp (package) . . . . .       |
| \@footnotetext . . . . .          | <i>6823</i>                                       | acro (package) . . . . .          |
| \@include . . . . .               | <i>1635</i>                                       | acronym (package) . . . . .       |
| \@item . . . . .                  | <i>8430</i>                                       | \addcontentsline . . . . .        |
| \@makecaption . . . . .           | <i>10683</i>                                      | addlines (package) . . . . .      |
| \@makefnmark . . . . .            | <i>6792</i>                                       | \AddSubtitlePublished . . . . .   |
| \@makefntext . . . . .            | <i>6791</i>                                       | adjmulticol (package) . . . . .   |
| \@maketitle . . . . .             | <i>57</i> , <u>8153</u>                           | Adobe (program) . . . . .         |
| \@mklab . . . . .                 | <i>8411</i>                                       | \affiliation . . . . .            |
| \@mpfootnotetext . . . . .        | <i>6825</i>                                       | afterpage (package) . . . . .     |
| \@nbitem . . . . .                | <i>8497</i>                                       | algorithm2e (package) . . . . .   |
| \@opargbegintheorem . . . . .     | <i>8392</i>                                       | algorithmicx (package) . . . . .  |
| \@partcntformat . . . . .         | <i>7473</i>                                       | align (environment) . . . . .     |
| \@partnameformat . . . . .        | <i>7474</i>                                       | align* (environment) . . . . .    |
| \@rowc@lors . . . . .             | <i>9185</i>                                       | alignat (environment) . . . . .   |
| \@rowcolors . . . . .             | <i>9184</i>                                       | alignat* (environment) . . . . .  |
| \@seccntformat . . . . .          | <i>7470</i>                                       | altt (package) . . . . .          |
|                                   |                                                   | \AltTextClose . . . . .           |

|                             |                |                            |               |
|-----------------------------|----------------|----------------------------|---------------|
| \AltTextOpen                | 119, 11472     | booklet (package)          | 719           |
| \AmS                        | 13660          | bookmark (package)         | 719           |
| amscdx (package)            | 677            | booktabs (package)         | 720           |
| amsmath (package)           | 677            | boolean:                   |               |
| amsthm (package)            | 681            | CombineHigherDepths        | 116, 397      |
| \and                        | 434            | FileSectionNames           | 116, 359      |
| anonchap (package)          | 686            | FixSmallCaps               | 117, 128, 629 |
| any size (package)          | 687            | FormatEPUB                 | 189, 270      |
| appendix (package)          | 140, 687       | FormatWP                   | 191, 270      |
| ar (package)                | 688            | HTMLDebugComments          | 117, 264      |
| arabicfront (package)       | 689            | LWR@algocf@dopars          | 378           |
| array (package)             | 689            | LWR@allowanothergeometry   | 251           |
| \arrayrulecolor             | 9192           | LWR@amsmultiline           | 591           |
| \arrayrulecolor\nexttoken   | 9192           | LWR@copiedsidetoc          | 546           |
| arydshln (package)          | 690            | LWR@doingapar              | 378           |
| AsciiDoc (program)          | 78             | LWR@doingcmidrule          | 461           |
| AsciiDoctor (program)       | 78             | LWR@doingstartpars         | 378           |
| Asciidoctor-LaTeX (program) | 78             | LWR@doingtbrule            | 461           |
| asymptote (package)         | 170, 692       | LWR@dynamicmath            | 357           |
| atbegshi (package)          | 693            | LWR@emptyatbang            | 462           |
| attachfile (package)        | 694            | LWR@exittingtabular        | 462           |
| attachfile2 (package)       | 695            | LWR@forceminipagefullwidth | 619           |
| \attrib                     | 181, 444, 1263 | LWR@foundmrowcell          | 462           |
| \attribution                | 8231           | LWR@freezethisautoID       | 539           |
| authblk (package)           | 140, 697       | LWR@indisplaymathimage     | 569           |
| \author                     | 125, 434       | LWR@insidemathcomment      | 569           |
| autobreak (package)         | 698            | LWR@intabularmetadata      | 462           |
| autonum (package)           | 699            | LWR@isstartingequation     | 596           |
| autosec                     | 414            | LWR@MathJax@silentquotes   | 402           |
| awesomebox (package)        | 700            | LWR@mathmacro              | 356           |
| axessibility (package)      | 701            | LWR@minipagefullwidth      | 619           |
| axodraw2 (package)          | 702            | LWR@minipagethispar        | 619           |

## B

|                          |           |                            |     |
|--------------------------|-----------|----------------------------|-----|
| babel (package)          | 181       | LWR@opttablecol            | 462 |
| \backmatter              | 7448      | LWR@origmathjax            | 240 |
| backnaur (package)       | 702       | LWR@setseqfilelabel        | 359 |
| backref (package)        | 703       | LWR@skipatbang             | 462 |
| balance (package)        | 703       | LWR@skippingmcolrowcell    | 462 |
| \BaseJobname             | 5976      | LWR@skippingmrowcell       | 461 |
| BaseJobname (option)     | 113, 241  | LWR@spewingnotes           | 389 |
| bding (package)          | 704       | LWR@starredlongtable       | 464 |
| beamerarticle (package)  | 709       | LWR@startedrow             | 461 |
| \bfseries                | 13198     | LWR@tableparcell           | 461 |
| bilatex (package)        | 711       | LWR@tabularcelladded       | 461 |
| \bibliography            | 11257     | LWR@tabularmutemods        | 462 |
| \BibTeX                  | 13653     | LWR@tracinglwarp           | 264 |
| bibunits (package)       | 715       | LWR@unknownmathsize        | 571 |
| bigdelim (package)       | 176, 715  | LWR@usedmultirow           | 462 |
| bigfoot (package)        | 717       | LWR@validtablecol          | 462 |
| bigstrut (package)       | 717       | LWR@verbtags               | 446 |
| bitpattern (package)     | 718       | LWR@warnbaselinemarker     | 571 |
| BlockClass (environment) | 122, 6461 | LWR@warnedcustomizemathjax | 404 |
| \BlockClassSingle        | 6474      | LWR@xfakebold              | 569 |
| blowup (package)         | 718       | mathjax                    | 240 |
| \bm (package)            | 718       | usingOSWindows             | 239 |
|                          |           | warpingHTML                | 240 |

|                           |               |                               |                |
|---------------------------|---------------|-------------------------------|----------------|
| warpingprint              | 240           | CJK (package)                 | 770            |
| WPMarkFloats              | 192, 271      | CJKutf8 (package)             | 770            |
| WPMarkLOFT                | 193, 271      | class (key) [Gin]             | 880            |
| WPMarkMath                | 193, 272      | class:                        |                |
| WPMarkMinipages           | 193, 271      | internet                      | 77             |
| WPMarkTOC                 | 193, 271      | komascript                    | 178            |
| WPTitleHeading            | 194, 272      | memoir                        | 179, 181, 1264 |
| bophook (package)         | 722           | classicthesis (package)       | 771            |
| bounddvi (package)        | 722           | \cleardoublepage              | 13482          |
| boxedminipage (package)   | 722           | \clearpage                    | 13482          |
| boxedminipage2e (package) | 723           | cleveref (package)            | 136, 771       |
| \boxframe                 | 177           | clrdblpg (package)            | 775            |
| braket (package)          | 723           | cm-super (package)            | 104            |
| breakurl (package)        | 723           | cmap (package)                | 106            |
| breqn (package)           | 724           | cmbright (package)            | 775            |
| bsheaders (package)       | 726           | cmdtrack (package)            | 776            |
| bussproofs (package)      | 726           | colonequals (package)         | 776            |
| BVerbatim (environment)   | 257           | \color                        | 53             |
| bxpapersize (package)     | 726           | color (package)               | 168, 777       |
| bytefield (package)       | 727           | \colorbox                     | 80             |
|                           |               | \colorboxBlock                | 89, 12546      |
|                           |               | colortbl (package)            | 176, 777       |
| calc (package)            | 253           | CombineHigherDepths (boolean) | 116, 397       |
| cancel (package)          | 727           | comment (package)             | 247            |
| canoniclayout (package)   | 728           | \ConTeXt                      | 13648          |
| capt-of (package)         | 544           | continue (package)            | 779            |
| caption (package)         | 177, 544, 728 | copyrightbox (package)        | 779            |
| caption3 (package)        | 730           | counter:                      |                |
| \caption@begin            | 10740         | FileDepth                     | 116, 397       |
| \caption@end              | 10740         | FootnoteDepth                 | 116, 388       |
| \captionlistentry         | 10747         | footnoteReset                 | 389            |
| \captionof                | 10788         | lofdepth                      | 551            |
| \CaptionSeparator         | 10682         | lotdepth                      | 551            |
| cases (package)           | 733           | LWR@cellcolordepth            | 464            |
| ccicons (package)         | 733           | LWR@currentautosecfloatpage   | 395            |
| center (environment)      | 12417         | LWR@currentautosecpage        | 395            |
| \centering                | 12447         | LWR@externalfilecnt           | 569            |
| centerlastline (package)  | 734           | LWR@hdashedlines              | 461            |
| \centerline               | 12466         | LWR@hlines                    | 461            |
| centernot (package)       | 734           | LWR@htmlfilenumber            | 359            |
| changebar (package)       | 734           | LWR@htmlseqfilenumber         | 359            |
| changelayout (package)    | 735           | LWR@lateximagedepth           | 595            |
| changepage (package)      | 736           | LWR@lateximagenumber          | 595            |
| changes (package)         | 736           | LWR@LIpage                    | 595            |
| chappg (package)          | 741           | LWR@maxfields@                | 678            |
| \chapter                  | 7684          | LWR@midrulecounter            | 465            |
| chapterbib (package)      | 742           | LWR@minipage@depth            | 619            |
| chemfig (package)         | 742           | LWR@mpfootnote@store          | 619            |
| chemformula (package)     | 744           | LWR@nextautoid                | 541            |
| chemgreek (package)       | 749           | LWR@nextautopage              | 541            |
| chemmacros (package)      | 750           | LWR@nextequation              | 583            |
| chemnum (package)         | 768           | LWR@prevFileDepth             | 414            |
| chkfloat (package)        | 769           | LWR@previousautopagelabel     | 395            |
| chngpage (package)        | 769           | LWR@spandepth                 | 378            |
| cite (package)            | 769           | LWR@startingequation          | 596            |
| citeref (package)         | 770           |                               |                |

|                             |                |                         |              |
|-----------------------------|----------------|-------------------------|--------------|
| LWR@tablecolsindex          | 463            | ellipsis (package)      | 796          |
| LWR@tablecolswidth          | 463            | embrac (package)        | 796          |
| LWR@tableLaTeXcolindex      | 463            | \emph                   | 12998        |
| LWR@tabletotalLaTeXcols     | 464            | emptypage (package)     | 797          |
| LWR@tabletotalLaTeXcolsnext | 464            | \end@dblfloat           | 10629        |
| LWR@tabularDepth            | 463            | \end@float              | 10629        |
| LWR@tabularpardepth         | 463            | \enddocument            | 7953         |
| LWR@thisautoid              | 539            | endfloat (package)      | 797          |
| LWR@thisautoidWP            | 539            | endheads (package)      | 798          |
| LWR@virtualpagedepth        | 618            | endnotes (package)      | 140, 799     |
| SideTOCDepth                | 114, 549       | engtlc (package)        | 800          |
| tocdepth                    | 114            | \enlargethispage        | 13481        |
| \cpagerefFor                | 38             | enotez (package)        | 804          |
| crop (package)              | 780            | \enskip                 | 641, 13426   |
| \CSSFilename                | 117, 121, 6729 | enumerate (environment) | 8555         |
| ctable (package)            | 780            | enumerate (package)     | 806          |
| \CustomizeMathJax           | 7191, 7302     | enumitem (package)      | 807          |
| cuted (package)             | 783            | environ (package)       | 255          |
| cutwin (package)            | 783            | environment:            |              |
|                             |                | BlockClass              | 122          |
|                             |                | fminipage               | 132          |
|                             |                | lateXimage              | 594          |
|                             |                | picture                 | 616          |
|                             |                | titlepage               | 125          |
|                             |                | titlingpage             | 125          |
|                             |                | warpall                 | 123          |
|                             |                | warpHTML                | 120, 123     |
|                             |                | warpMathJax             | 124          |
|                             |                | warpprint               | 119, 123     |
|                             |                | warsvg                  | 124          |
|                             |                | environments:           |              |
|                             |                | abstract                | 8221         |
|                             |                | align                   | 95           |
|                             |                | align*                  | 98           |
|                             |                | alignat                 | 107          |
|                             |                | alignat*                | 110          |
|                             |                | BlockClass              | 6461         |
|                             |                | BVerbatim               | 257          |
|                             |                | center                  | 12417        |
|                             |                | description             | 8581         |
|                             |                | enumerate               | 8555         |
|                             |                | eqnarray                | 12122        |
|                             |                | equation                | 12052        |
|                             |                | equation*               | 12060        |
|                             |                | fcolorminipage          | 157, 12586   |
|                             |                | flalign                 | 101          |
|                             |                | flalign*                | 104          |
|                             |                | flushleft               | 12437        |
|                             |                | flushright              | 12427        |
|                             |                | fminipage               | 12924        |
|                             |                | gather                  | 89           |
|                             |                | gather*                 | 92           |
|                             |                | itemize                 | 8547         |
|                             |                | lateXimage              | 12265, 12413 |
|                             |                | list                    | 8517         |

## E

|                        |       |
|------------------------|-------|
| easy-todo (package)    | 791   |
| ebook (package)        | 792   |
| \ebweight              | 13203 |
| econometrics (package) | 793   |
| ed (package)           | 795   |

|                                      | F                         |
|--------------------------------------|---------------------------|
| longtable . . . . .                  | <u>4</u>                  |
| LWR@BlockClassWP . . . . .           | <u>6504</u>               |
| LWR@blocktextcurrentfont             | <u>13184, 13329</u>       |
| LWR@displaymathnormal . . . . .      | <u>11861</u>              |
| LWR@displaymathother . . . . .       | <u>11864</u>              |
| LWR@equationother . . . . .          | <u>11877</u>              |
| LWR@figcaption . . . . .             | <u>10710</u>              |
| LWR@glrbox . . . . .                 | <u>989</u>                |
| LWR@nestspan . . . . .               | <u>6287</u>               |
| LWR@setvirtualpage . . . . .         | <u>12672</u>              |
| LWRcreatelwarpmk . . . . .           | <u>1300</u>               |
| math . . . . .                       | <u>11860</u>              |
| minipage . . . . .                   | <u>12701</u>              |
| multiline . . . . .                  | <u>82</u>                 |
| multiline* . . . . .                 | <u>85</u>                 |
| picture . . . . .                    | <u>12663</u>              |
| quotation . . . . .                  | <u>8258</u>               |
| quote . . . . .                      | <u>8250</u>               |
| tabbing . . . . .                    | <u>8363</u>               |
| tabular . . . . .                    | <u>10099</u>              |
| thebibliography . . . . .            | <u>11258</u>              |
| theindex . . . . .                   | <u>10999</u>              |
| titlepage . . . . .                  | <u>8034</u>               |
| titlingpage . . . . .                | <u>14</u>                 |
| verbatim . . . . .                   | <u>8345</u>               |
| verse . . . . .                      | <u>2, 8268</u>            |
| warpall . . . . .                    | <u>1275</u>               |
| warpHTML . . . . .                   | <u>1276</u>               |
| warpMathJax . . . . .                | <u>1282</u>               |
| warpprint . . . . .                  | <u>1279</u>               |
| warpsvg . . . . .                    | <u>1291</u>               |
| epigraph (package) . . . . .         | <u>807</u>                |
| epsf (package) . . . . .             | <u>808</u>                |
| epsfig (package) . . . . .           | <u>809</u>                |
| epstopdf (package) . . . . .         | <u>169, 809</u>           |
| epstopdf (program) . . . . .         | <u>166, 610</u>           |
| epstopdf-base (package) . . . . .    | <u>810</u>                |
| eqlist (package) . . . . .           | <u>811</u>                |
| eqnarray (environment) . . . . .     | <u>12122</u>              |
| eqparbox (package) . . . . .         | <u>811</u>                |
| equation (environment) . . . . .     | <u>12052</u>              |
| equation* (environment) . . . . .    | <u>12060</u>              |
| errata (package) . . . . .           | <u>812</u>                |
| eso-pic (package) . . . . .          | <u>813</u>                |
| esvect (package) . . . . .           | <u>814</u>                |
| \etalchar . . . . .                  | <u>141</u>                |
| etoc (package) . . . . .             | <u>814</u>                |
| etoolbox (package) . . . . .         | <u>213</u>                |
| eurosym (package) . . . . .          | <u>817</u>                |
| everyhook (package) . . . . .        | <u>253</u>                |
| everypage (package) . . . . .        | <u>817</u>                |
| everyshi (package) . . . . .         | <u>818</u>                |
| expl3 (package) . . . . .            | <u>253</u>                |
| extarrows (package) . . . . .        | <u>818</u>                |
| extramarks (package) . . . . .       | <u>818</u>                |
| fancybox (package) . . . . .         | <u>133, 819</u>           |
| fancyhdr (package) . . . . .         | <u>824</u>                |
| fancypar (package) . . . . .         | <u>825</u>                |
| fancyref (package) . . . . .         | <u>826</u>                |
| fancytabs (package) . . . . .        | <u>827</u>                |
| fancyvrb (package) . . . . .         | <u>827</u>                |
| \fbox . . . . .                      | <u>132, 12893</u>         |
| fbox (package) . . . . .             | <u>834</u>                |
| \fboxBlock . . . . .                 | <u>132, 12904</u>         |
| \fcolorbox . . . . .                 | <u>102, 12548</u>         |
| \fcolorboxBlock . . . . .            | <u>121, 12584</u>         |
| fcolorminipage (environment) .       | <u>157, 12586</u>         |
| fewerfloatpages (package) . . . . .  | <u>837</u>                |
| figcaps (package) . . . . .          | <u>837</u>                |
| figsize (package) . . . . .          | <u>837</u>                |
| file:                                |                           |
| *-images.txt . . . . .               | <u>599</u>                |
| *_html.aux . . . . .                 | <u>395, 523, 525, 599</u> |
| *_html.lof . . . . .                 | <u>541</u>                |
| *_html.lot . . . . .                 | <u>541</u>                |
| *_html.tex . . . . .                 | <u>278</u>                |
| glyptounicode.tex . . . . .          | <u>106</u>                |
| lwarp.css . . . . .                  | <u>121, 284</u>           |
| lwarp.ist . . . . .                  | <u>154, 326</u>           |
| lwarp.xdy . . . . .                  | <u>155, 327</u>           |
| lwarp_baseline_marker.eps . . . . .  | <u>570</u>                |
| lwarp_baseline_marker.png . . . . .  | <u>570</u>                |
| lwarp_formal.css . . . . .           | <u>322</u>                |
| lwarp_mathjax.txt . . . . .          | <u>328</u>                |
| lwarp_one_limage.cmd . . . . .       | <u>327</u>                |
| lwarp_sagebrush.css . . . . .        | <u>317</u>                |
| lwarp_tutorial.txt . . . . .         | <u>87</u>                 |
| lwarpmk.conf . . . . .               | <u>284</u>                |
| lwarpmk.lua . . . . .                | <u>200</u>                |
| project.css . . . . .                | <u>121</u>                |
| project.lwarpmkconf . . . . .        | <u>284</u>                |
| sample_project.css . . . . .         | <u>121, 326</u>           |
| tutorial.tex . . . . .               | <u>87</u>                 |
| filecontents (package) . . . . .     | <u>253</u>                |
| FileDepth (counter) . . . . .        | <u>116, 397</u>           |
| \FilenameLimit . . . . .             | <u>116, 6945</u>          |
| \FilenameNullify . . . . .           | <u>135, 11467, 13330</u>  |
| \FilenameSimplify . . . . .          | <u>135, 6966, 7303</u>    |
| FileSectionNames (boolean) . . . . . | <u>116, 359</u>           |
| fitbox (package) . . . . .           | <u>838</u>                |
| fix2col (package) . . . . .          | <u>838</u>                |
| fixmath (package) . . . . .          | <u>838</u>                |
| fixme (package) . . . . .            | <u>182, 839</u>           |
| fixmetodonotes (package) . . . . .   | <u>840</u>                |
| FixSmallCaps (boolean) . . . . .     | <u>117, 128, 629</u>      |
| flafter (package) . . . . .          | <u>841</u>                |
| \flagverse . . . . .                 | <u>1264</u>               |
| flalign (environment) . . . . .      | <u>101</u>                |
| flalign* (environment) . . . . .     | <u>104</u>                |

|                                     |            |                                           |                               |
|-------------------------------------|------------|-------------------------------------------|-------------------------------|
| Flare (program) . . . . .           | 78         | GELLMU (program) . . . . .                | 77                            |
| flippdf (package) . . . . .         | 841        | gensymb (package) . . . . .               | 870                           |
| float (package) . . . . .           | 177, 841   | gentombow (package) . . . . .             | 870                           |
| floatflt (package) . . . . .        | 843        | geometry (package) . . . . .              | 250, 870                      |
| floatpag (package) . . . . .        | 844        | getttitlestring (package) . . . . .       | 253                           |
| floatrow (package) . . . . .        | 178, 844   | ghsystem (package) . . . . .              | 871                           |
| fltrace (package) . . . . .         | 849        | [Gin]:                                    |                               |
| \flushbottom . . . . .              | 6175       | class (key) . . . . .                     | 880                           |
| flushend (package) . . . . .        | 850        | gindex (package) . . . . .                | 145, 872                      |
| flushleft (environment) . . . . .   | 12437      | GladTeX (program) . . . . .               | 77                            |
| flushright (environment) . . . . .  | 12427      | gloss (package) . . . . .                 | 141, 873                      |
| fminipage (environment) . . . . .   | 132, 12924 | glossaries (package) . . . . .            | 142, 873                      |
| fnbreak (package) . . . . .         | 850        | GlossaryCmd (option) . . . . .            | 112, 142, 244, 873            |
| fncychap (package) . . . . .        | 850        | glyphtrounicode.tex (file) . . . . .      | 106                           |
| fnlineno (package) . . . . .        | 851        | gmeometric (package) . . . . .            | 875                           |
| fnpara (package) . . . . .          | 851        | graphics (package) . . . . .              | 165, 876                      |
| fnpos (package) . . . . .           | 852        | graphicx (package) . . . . .              | 165, 889                      |
| fontawesome (package) . . . . .     | 852        | grffile (package) . . . . .               | 168, 889                      |
| fontawesome5 (package) . . . . .    | 853        | grid (package) . . . . .                  | 889                           |
| fontaxes (package) . . . . .        | 854        | grid-system (package) . . . . .           | 890                           |
| fontenc (package) . . . . .         | 106, 854   | gridset (package) . . . . .               | 890                           |
| fontspec (package) . . . . .        | 106, 249   |                                           |                               |
| footmisc (package) . . . . .        | 855        | <b>H</b>                                  |                               |
| footnote (package) . . . . .        | 856        | hang (package) . . . . .                  | 891                           |
| footnotebackref (package) . . . . . | 858        | hanging (package) . . . . .               | 892                           |
| FootnoteDepth (counter) . . . . .   | 116, 388   | hepunits (package) . . . . .              | 893                           |
| footnotehyper (package) . . . . .   | 858        | Hevea (program) . . . . .                 | 77                            |
| footnoterange (package) . . . . .   | 858        | \hfill . . . . .                          | 13379                         |
| footnoteReset (counter) . . . . .   | 389        | hhline (package) . . . . .                | 894                           |
| footnpag (package) . . . . .        | 858        | htensor (package) . . . . .               | 895                           |
| \ForceHTMLPage . . . . .            | 139, 7423  | \HomeHTMLFilename . . . . .               | 5978                          |
| \ForceHTMLTOC . . . . .             | 140, 7429  | HomeHTMLFilename (option) . . . . .       | 108, 243                      |
| foreign (package) . . . . .         | 859        | \hrule . . . . .                          | 129                           |
| forest (package) . . . . .          | 859        | \hrulefill . . . . .                      | 129, 13381                    |
| FormatEPUB (boolean) . . . . .      | 189, 270   | \hskip . . . . .                          | 128                           |
| FormatWP (boolean) . . . . .        | 191, 270   | \hspace . . . . .                         | 128, 641, 13434, 13465, 13471 |
| fouridx (package) . . . . .         | 860        | htlatex (program) . . . . .               | 77                            |
| fourier (package) . . . . .         | 860        | \HTMLAuthor . . . . .                     | 118, 126, 6766                |
| \framebox . . . . .                 | 12870      | HTMLDebugComments (boolean) . . . . .     | 117, 264                      |
| framed (package) . . . . .          | 862        | \HTMLDescription . . . . .                | 118, 125, 6771                |
| FrameMaker (program) . . . . .      | 78         | \HTMLEntity . . . . .                     | 5960                          |
| \frontmatter . . . . .              | 7445       | \HTMLFilename . . . . .                   | 5977                          |
| froufrou (package) . . . . .        | 864        | HTMLFilename (option) . . . . .           | 108, 243                      |
| ftcap (package) . . . . .           | 865        | \HTMLFirstPageBottom . . . . .            | 114, 6717                     |
| ftnright (package) . . . . .        | 865        | \HTMLFirstPageTop . . . . .               | 114, 6714                     |
| fullminipage (package) . . . . .    | 865        | htmlglossary (option) [lwarpmk] . . . . . | 142, 873                      |
| fullpage (package) . . . . .        | 865        | HTMLIndexCmd (option) . . . . .           | 111, 243                      |
| fullwidth (package) . . . . .       | 866        | \HTMLLanguage . . . . .                   | 117, 7717                     |
| \fup . . . . .                      | 13305      | HTMLLatexCmd (option) . . . . .           | 110, 184, 243                 |
| \fussy . . . . .                    | 6177       | \HTMLLeftmargini (length) . . . . .       | 181, 444, 445, 1263           |
| fvextra (package) . . . . .         | 866        | \HTMLNewColumnType . . . . .              | 119, 9108                     |
| fwlw (package) . . . . .            | 869        | \HTMLPageBottom . . . . .                 | 118, 434, 6723                |
|                                     |            | \HTMLPageTop . . . . .                    | 118, 6720                     |
|                                     |            | \HTMLTitle . . . . .                      | 117, 126, 6761                |
| gather (environment) . . . . .      | 89         | \HTMLTitleAfterSection . . . . .          | 118, 7740                     |
| gather* (environment) . . . . .     | 92         | \HTMLTitleBeforeSection . . . . .         | 117, 7735                     |

## G

|                                 |    |
|---------------------------------|----|
| gather (environment) . . . . .  | 89 |
| gather* (environment) . . . . . | 92 |

|                          |                     |                                 |
|--------------------------|---------------------|---------------------------------|
| \HTMLunicode             | 5968                | key:                            |
| \HTMLvleftskip (length)  | 181, 444, 445, 1263 | [Gin]:                          |
| hypbmsec (package)       | 895                 | class .....                     |
| hypcap (package)         | 896                 | keyfloat (package) .....        |
| hypdestopt (package)     | 896                 | keystroke (package) .....       |
| \hyperindexformat        | 11246               | komascript (class) .....        |
| \hyperindexref           | 11204               | kotex (package) .....           |
| hypernat (package)       | 896                 | kpfonts (package) .....         |
| \hyperpage               | 11244               | kpfonts-otf (package) .....     |
| hyperref (package)       | 137, 532, 896       | kvoptions (package) .....       |
| \hypertoc                | 10932               |                                 |
| \hypertocfloat           | 10955               | <b>L</b>                        |
| hyperxmp (package)       | 906                 | \l@book .....                   |
| hyphenat (package)       | 907                 | \l@chapter .....                |
|                          |                     | \l@figure .....                 |
|                          |                     | \l@paragraph .....              |
|                          |                     | \l@part .....                   |
|                          |                     | \l@section .....                |
|                          |                     | \l@subparagraph .....           |
|                          |                     | \l@subsection .....             |
|                          |                     | \l@subsubsection .....          |
|                          |                     | \l@subsubsubsection .....       |
|                          |                     | \l@table .....                  |
|                          |                     | \LaTeX .....                    |
|                          |                     | \LaTeX2HTML (program) .....     |
|                          |                     | \LaTeXe .....                   |
| idxlayout (package)      | 908                 | \Lateximage (environment) ..... |
| \if@titlepage            | 8012                | 12265, 12413                    |
| \ifnextchar              | 161                 | \LateximageFontSize .....       |
| ifoddpage (package)      | 909                 | 12195                           |
| ifplatform (package)     | 213                 | \LateximageFontSizeName .....   |
| \ifstar                  | 161                 | 12194                           |
| \IgnoreMinipageWidths    | 131, 617, 12688     | \latemk (option) .....          |
| \ImageAltText            | 118, 11474          | 108, 244                        |
| ImagesDirectory (option) | 108, 242            | \latemk (program) .....         |
| ImagesName (option)      | 108, 242            | 185                             |
| imakeidx (package)       | 910                 | \LatexmkIndexCmd (option) ..... |
| imakeidx (program)       | 148                 | 111, 243                        |
| impnattypo (package)     | 914                 | \LaTeXXML (program) .....       |
| \includegraphics         | 324                 | 77                              |
| indentfirst (package)    | 384                 | \layaureo (package) .....       |
| InDesign (program)       | 78                  | 933                             |
| index (package)          | 914                 | \layout (package) .....         |
| index (program)          | 145                 | 933                             |
| \IndexPageSeparator      | 117, 10997          | \layouts (package) .....        |
| \IndexRangeSeparator     | 117, 10997          | 936                             |
| IndexRef (option)        | 112, 244            | \leading (package) .....        |
| \InlineClass             | 122, 6484           | \leftidx (package) .....        |
| \inlinemathnormal        | 163, 5953           | 936                             |
| \inlinemathother         | 163, 5949           | \leftline .....                 |
| inputenc (package)       | 106                 | 12465                           |
| inputenx (package)       | 106                 | \HTMLleftmargini .....          |
| inputrc (package)        | 915                 | \HTMLvleftskip .....            |
| internet (class)         | 77                  | 181, 444, 445, 1263             |
| intopdf (package)        | 916                 | \LWR@cmidrulewidth .....        |
| isomath (package)        | 916                 | 490                             |
| isotope (package)        | 917                 | \LWR@heavyrulewidth .....       |
| itemize (environment)    | 8547                | 490                             |
| \itshape                 | 13237               | \LWR@lightrulewidth .....       |
|                          |                     | 490                             |
|                          |                     | \LWR@minipageheight .....       |
|                          |                     | 618                             |
|                          |                     | \LWR@minipagewidth .....        |
|                          |                     | 618                             |
|                          |                     | \LWR@tempheight .....           |
|                          |                     | 642                             |
|                          |                     | \LWR@tempraise .....            |
|                          |                     | 642                             |
|                          |                     | \LWR@tempwidth .....            |
|                          |                     | 642                             |
|                          |                     | \LWR@thiscmidrulewidth .....    |
|                          |                     | 490                             |
|                          |                     | \VerbatimHTMLWidth .....        |
|                          |                     | 446                             |
|                          |                     | \vleftmargini .....             |
|                          |                     | 181, 444, 1263                  |
|                          |                     | \vleftskip .....                |
|                          |                     | 181, 444, 1263, 1264            |
|                          |                     |                                 |
|                          |                     | <b>K</b>                        |
|                          |                     | letltxmacro (package) .....     |
|                          |                     | 213                             |
|                          |                     | karnaugh-map (package) .....    |
|                          |                     | 919                             |
|                          |                     | letterspace (package) .....     |
|                          |                     | 936                             |
|                          |                     | \kern .....                     |
|                          |                     | 128                             |
|                          |                     | letrine (package) .....         |
|                          |                     | 937                             |

|                                                |                 |                                         |               |
|------------------------------------------------|-----------------|-----------------------------------------|---------------|
| \lgweight                                      | 13210           | lwarf.ist (file)                        | 154, 326      |
| libertinustmath (package)                      | 938             | lwarf.xdy (file)                        | 155, 327      |
| LibreOffice (program)                          | 78              | lwarf_baseline_marker.eps (file)        | 570           |
| \linebreak                                     | 13475           | lwarf_baseline_marker.png (file)        | 570           |
| lineno (package)                               | 944             | lwarf_formal.css (file)                 | 322           |
| \LinkHome                                      | 118, 6047, 6052 | lwarf_mathjax.txt (file)                | 328           |
| \linkhomename                                  | 114, 6044       | lwarf_one_limage.cmd (file)             | 327           |
| \LinkNext                                      | 118, 6080, 6093 | lwarf_sagebrush.css (file)              | 317           |
| \linknextname                                  | 114, 6076       | lwarf_tutorial.txt (file)               | 87            |
| \LinkPrevious                                  | 118, 6079, 6083 | [lwarpmk]:                              |               |
| \linkpreviousname                              | 114, 6075       | htmlglossary (option)                   | 142, 873      |
| Linux (program)                                | 122, 238        | printglossary (option)                  | 142, 873      |
| lips (package)                                 | 947             | lwarpmk (option)                        | 112, 242, 332 |
| lipsum (package)                               | 947             | lwarpmk (program)                       | 200, 332      |
| list (environment)                             | 8517            | lwarpmk epstopdf (program)              | 166, 610      |
| listings (package)                             | 947             | lwarpmk pdftosvg (program)              | 166, 610      |
| listliketab (package)                          | 954             | lwarpmk.conf (file)                     | 284           |
| \listoffigures                                 | 10853           | lwarpmk.lua (file)                      | 200           |
| \listoftables                                  | 10866           | \lwarpmsetup                            | 1063          |
| \lltjext (package)                             | 954             | \LWR@footnotetext                       | 6795          |
| \lltjp-tascmac (package)                       | 955             | \LWR@makebox@align                      | 12826         |
| \modern (package)                              | 104, 106        | \LWR@makebox@paren                      | 12811         |
| \lofdepth (counter)                            | 551             | \LWR@printpendingfootnotes              | 6850          |
| \longtable (environment)                       | 4               | \LWR@absorbstar                         | 1016          |
| \longtable (package)                           | 174, 955        | \LWR@addbaselinemarker                  | 11509         |
| \lotdepth (counter)                            | 551             | \LWR@addcdashline                       | 9458          |
| \lpic (package)                                | 958             | \LWR@addcmidruletrim                    | 9424          |
| \lscape (package)                              | 958             | \LWR@addcmidrulewidth                   | 9455          |
| \ltablex (package)                             | 959             | \LWR@addcompilecmd                      | 2081          |
| \tcaption (package)                            | 959             | \LWR@addformatwpalignment               | 9474          |
| \txgrid (package)                              | 960             | \LWR@addleftmostbartag                  | 9264          |
| \txttable (package)                            | 960             | \LWR@addlinktitle                       | 10377         |
| \lua-check-hyphen (package)                    | 960             | \LWR@addmathjax                         | 11957         |
| \lua-visual-debug (package)                    | 961             | \LWR@addmulticolvertrulecolor           | 9688          |
| \luacolor (package)                            | 961             | \LWR@addrulewidth                       | 9429          |
| \LuaTeX                                        | 13631           | \LWR@addtabularcellcolor                | 9600          |
| \LuaTeX (program) [requirement]                | 81              | \LWR@addtabularhrulecolor               | 9499          |
| \luamplib (package)                            | 961             | \LWR@addtabulararrowcolor               | 9484          |
| \LuaTeX                                        | 13631           | \LWR@addtabularrulecolors               | 9545          |
| \luatexko (package)                            | 961             | \LWR@afterendverbatim                   | 8329          |
| \luatodonotes (package)                        | 182, 964        | \LWR@afterloadnever                     | 93            |
| \luavlna (package)                             | 966             | \LWR@algocf@dopars (boolean)            | 378           |
| \lwarf (package)                               | 108             | \LWR@allowanothergeometry (boolean)     | 251           |
| \lwarf-common-mathjax-letters (package)        | 1334            | \LWR@amsmathbody                        | 12228         |
| \lwarf-common-mathjax-newpxmath (package)      | 1341            | \LWR@amsmathbodynumbered                | 12234         |
| \lwarf-common-mathjax-nonunicode (package)     | 1347            | \LWR@amsmultiline (boolean)             | 591           |
| \lwarf-common-mathjax-overlaysymbols (package) | 1350            | \LWR@applyxfakebold                     | 11491         |
| \lwarf-common-mathjax-overlaysymbols (package) | 1350            | \LWR@atbeginverbatim                    | 8308          |
| \lwarf-common-mathjax-overlaysymbols (package) | 1350            | \LWR@avoiddupfilenames                  | 6977          |
| \lwarf-common-mathjax-overlaysymbols (package) | 1350            | \LWR@backgroundcolor                    | 41            |
| \lwarf-common-mathjax-overlaysymbols (package) | 1350            | \LWR@beginhideamsmath                   | 12104         |
| \lwarf-common-multimedia (package)             | 1329            | \LWR@BlockClassWP (environment)         | 6504          |
| \lwarf-patch-komascript (package)              | 1298            | \LWR@blocktextcurrentfont (environment) | 13184, 13329  |
| \lwarf-patch-memoir (package)                  | 1301            | \LWR@botnavigation                      | 6070          |
| \lwarf.css (file)                              | 121, 284        |                                         |               |

|                                              |                           |                                             |                       |
|----------------------------------------------|---------------------------|---------------------------------------------|-----------------------|
| \LWR@cdashlines .....                        | <a href="#">490</a>       | \LWR@earlyclassloadnever .....              | <a href="#">103</a>   |
| \LWR@cellcolordepth (counter) .....          | <a href="#">464</a>       | \LWR@earlyloadnever .....                   | <a href="#">98</a>    |
| \LWR@cellHTMLcolor .....                     | <a href="#">9189</a>      | \LWR@emptyatbang (boolean) .....            | <a href="#">462</a>   |
| \LWR@checkbeforeaddclass .....               | <a href="#">8911</a>      | \LWR@endfloatalignment .....                | <a href="#">10676</a> |
| \LWR@checkloadbefore .....                   | <a href="#">67</a>        | \LWR@endhideamsmath .....                   | <a href="#">12114</a> |
| \LWR@checkloadfilename .....                 | <a href="#">1463</a>      | \LWR@endofline .....                        | <a href="#">13407</a> |
| \LWR@checkloadnever .....                    | <a href="#">232, 1462</a> | \LWR@ensuredoingapar .....                  | <a href="#">6576</a>  |
| \LWR@checkloadnevers .....                   | <a href="#">124</a>       | \LWR@equationother (environment) .....      | <a href="#">11877</a> |
| \LWR@checkmathcolpar .....                   | <a href="#">8919</a>      | \LWR@equationtag .....                      | <a href="#">12214</a> |
| \LWR@clearmidrules .....                     | <a href="#">9343</a>      | \LWR@excludedcomment .....                  | <a href="#">1235</a>  |
| \LWR@closeparagraph .....                    | <a href="#">6612</a>      | \LWR@existingtabular (boolean) .....        | <a href="#">462</a>   |
| \LWR@closeparagraph@br .....                 | <a href="#">6600</a>      | \LWR@expandableformatted .....              | <a href="#">1773</a>  |
| \LWR@closeprevious .....                     | <a href="#">6138</a>      | \LWR@expandableformattedenv .....           | <a href="#">1805</a>  |
| \LWR@closetabledatagrid .....                | <a href="#">8714</a>      | \LWR@expandpreamble .....                   | <a href="#">9039</a>  |
| \LWR@cmidrulewidth (length) .....            | <a href="#">490</a>       | \LWR@externalfilecnt (counter) .....        | <a href="#">569</a>   |
| \LWR@coladdclass .....                       | <a href="#">464</a>       | \LWR@fboxstyle .....                        | <a href="#">12886</a> |
| \LWR@colalterspec .....                      | <a href="#">464</a>       | \LWR@fifthoffive .....                      | <a href="#">961</a>   |
| \LWR@colatspec .....                         | <a href="#">464</a>       | \LWR@figcaption (environment) .....         | <a href="#">10710</a> |
| \LWR@colbangspec .....                       | <a href="#">464</a>       | \LWR@filenamenoblanks .....                 | <a href="#">6990</a>  |
| \LWR@colbarspec .....                        | <a href="#">464</a>       | \LWR@filestart .....                        | <a href="#">7749</a>  |
| \LWR@colbeforespec .....                     | <a href="#">464</a>       | \LWR@findcurrenttextcolor .....             | <a href="#">13319</a> |
| \LWR@columnHTMLcolor .....                   | <a href="#">9187</a>      | \LWR@findword .....                         | <a href="#">1459</a>  |
| \LWR@columnspeclookahead .....               | <a href="#">8845</a>      | \LWR@firstoffive .....                      | <a href="#">961</a>   |
| \LWR@compilecmd .....                        | <a href="#">2078</a>      | \LWR@floatalignment .....                   | <a href="#">10662</a> |
| \LWR@compileuplatex .....                    | <a href="#">2113</a>      | \LWR@floatalignmentname .....               | <a href="#">10661</a> |
| \LWR@convertto .....                         | <a href="#">930</a>       | \LWR@floatbegin .....                       | <a href="#">10567</a> |
| \LWR@copiedsidetoc (boolean) .....           | <a href="#">546</a>       | \LWR@floatend .....                         | <a href="#">10614</a> |
| \LWR@copyfile .....                          | <a href="#">1670</a>      | \LWR@floatstyle .....                       | <a href="#">2</a>     |
| \LWR@createautosec .....                     | <a href="#">7454</a>      | \LWR@footnotebox .....                      | <a href="#">6789</a>  |
| \LWR@createfooter .....                      | <a href="#">7306</a>      | \LWR@footnotetext .....                     | <a href="#">6822</a>  |
| \LWR@currentautosecfloatpage (counter) ..... | <a href="#">395</a>       | \LWR@forceemptyline .....                   | <a href="#">957</a>   |
| \LWR@currentautosecpage (counter) .....      | <a href="#">395</a>       | \LWR@forceminipagefullwidth (boolean) ..... | <a href="#">619</a>   |
| \LWR@currentautosecpageref .....             | <a href="#">10278</a>     | \LWR@forceminwidth .....                    | <a href="#">12875</a> |
| \LWR@currentcss .....                        | <a href="#">6728</a>      | \LWR@forcenewautoidanchor .....             | <a href="#">10637</a> |
| \LWR@currenttextcolor .....                  | <a href="#">13316</a>     | \LWR@forcenewpage .....                     | <a href="#">6158</a>  |
| \LWR@customizedMathJax .....                 | <a href="#">7176</a>      | \LWR@forceSVGmessage .....                  | <a href="#">13896</a> |
| \LWR@customizeMathJax .....                  | <a href="#">7283</a>      | \LWR@formatted .....                        | <a href="#">1757</a>  |
| \LWR@descitem .....                          | <a href="#">8563</a>      | \LWR@formatted@checkendname .....           | <a href="#">1737</a>  |
| \LWR@disablepinyin .....                     | <a href="#">956</a>       | \LWR@formatted@checkname .....              | <a href="#">1717</a>  |
| \LWR@displaymathnormal (environment) .....   | <a href="#">11861</a>     | \LWR@formattedenv .....                     | <a href="#">1789</a>  |
| \LWR@displaymathother (environment) .....    | <a href="#">11864</a>     | \LWR@formatting .....                       | <a href="#">1716</a>  |
| \LWR@docdashline .....                       | <a href="#">9392</a>      | \LWR@foundmrowcell (boolean) .....          | <a href="#">462</a>   |
| \LWR@docmidrule .....                        | <a href="#">9376</a>      | \LWR@fourthoffive .....                     | <a href="#">961</a>   |
| \LWR@doequation .....                        | <a href="#">11982</a>     | \LWR@freezethisautoid (boolean) .....       | <a href="#">539</a>   |
| \LWR@doindexentry .....                      | <a href="#">11185</a>     | \LWR@futurenonamespacelet .....             | <a href="#">8640</a>  |
| \LWR@doindexentrysub .....                   | <a href="#">11183</a>     | \LWR@FVstyle .....                          | <a href="#">56</a>    |
| \LWR@doindexentrysubsub .....                | <a href="#">11172</a>     | \LWR@getexparray .....                      | <a href="#">5922</a>  |
| \LWR@doindexentrysubsub .....                | <a href="#">11172</a>     | \LWR@getmynexttoken .....                   | <a href="#">8650</a>  |
| \LWR@doingapar (boolean) .....               | <a href="#">378</a>       | \LWR@glrbox (environment) .....             | <a href="#">989</a>   |
| \LWR@doingcmidrule (boolean) .....           | <a href="#">461</a>       | \LWR@gsavebox .....                         | <a href="#">975</a>   |
| \LWR@doingstartpars (boolean) .....          | <a href="#">378</a>       | \LWR@hdashedlines (counter) .....           | <a href="#">461</a>   |
| \LWR@doingtbrule (boolean) .....             | <a href="#">461</a>       | \LWR@heavyrulewidth (length) .....          | <a href="#">490</a>   |
| \LWR@domulticolumn .....                     | <a href="#">9726</a>      | \LWR@hidelatexequation .....                | <a href="#">11940</a> |
| \LWR@doubledollar .....                      | <a href="#">11752</a>     | \LWR@hlines (counter) .....                 | <a href="#">461</a>   |
| \LWR@dynamicmath (boolean) .....             | <a href="#">357</a>       | \LWR@hook@processingtags .....              | <a href="#">6201</a>  |

|                                     |              |                                       |                    |
|-------------------------------------|--------------|---------------------------------------|--------------------|
| \LWR@href .....                     | <u>10503</u> | LWR@isstartingequation (boolean) ..   | <u>596</u>         |
| \LWR@HTML@caption@begin .....       | <u>10720</u> | \LWR@itemizeitem .....                | <u>8540</u>        |
| \LWR@HTML@caption@end .....         | <u>10731</u> | \LWR@label@createtag .....            | <u>10328</u>       |
| \LWR@HTML@ref .....                 | <u>10420</u> | \LWR@label@inmathcomment .....        | <u>10314</u>       |
| \LWR@htmlblockcomment .....         | <u>6392</u>  | \LWR@label@subcreatetag .....         | <u>10310</u>       |
| \LWR@htmlblocktag .....             | <u>6394</u>  | \LWR@lateximage@oneimage .....        | <u>12250</u>       |
| \LWR@HTMLcline .....                | <u>10080</u> | \LWR@lateximage@oneimageb .....       | <u>12241</u>       |
| \LWR@htmclosecomment .....          | <u>6359</u>  | LWR@lateximagedepth (counter) .....   | <u>595</u>         |
| \LWR@htmlcomment .....              | <u>6380</u>  | \LWR@lateximagedepthref .....         | <u>10284</u>       |
| \LWR@htmldivclass .....             | <u>6435</u>  | LWR@lateximagenumber (counter) .....  | <u>595</u>         |
| \LWR@htmldivclassend .....          | <u>6440</u>  | \LWR@lateximagenumberref .....        | <u>10287</u>       |
| \LWR@htmlelement .....              | <u>6451</u>  | \LWR@lateximagesfile .....            | <u>1632</u>        |
| \LWR@htmlelementclass .....         | <u>6419</u>  | \LWR@latexmkcmd .....                 | <u>2099</u>        |
| \LWR@htmlelementclassend .....      | <u>6427</u>  | \LWR@latexmkdvipdfm .....             | <u>2104</u>        |
| \LWR@htmlelementclassline .....     | <u>6443</u>  | \LWR@latexmkvar .....                 | <u>2093</u>        |
| \LWR@htmlelementend .....           | <u>6454</u>  | \LWR@LetLtxMacros .....               | <u>1012</u>        |
| LWR@htmlfilename (counter) .....    | <u>359</u>   | \LWR@lightrulewidth (length) .....    | <u>490</u>         |
| \LWR@htmlfileref .....              | <u>10281</u> | \LWR@linkcatcodes .....               | <u>10462</u>       |
| \LWR@HTMLhline .....                | <u>10061</u> | \LWR@linkmediacatcodes .....          | <u>10470</u>       |
| \LWR@HTMLLatexCmd .....             | <u>2123</u>  | LWR@LIPage (counter) .....            | <u>595</u>         |
| \LWR@htmlopencomment .....          | <u>9794</u>  | \LWR@listitem .....                   | <u>8502</u>        |
| \LWR@htmlrefsectionfilename .....   | <u>6359</u>  | \LWR@listof .....                     | <u>10879</u>       |
| \LWR@HTMLsanitize .....             | <u>6034</u>  | \LWR@loadafter .....                  | <u>20</u>          |
| \LWR@HTMLsanitizeexpand .....       | <u>7146</u>  | \LWR@loadbefore .....                 | <u>55</u>          |
| \LWR@HTMLsanitizeexpand .....       | <u>7154</u>  | \LWR@loadnever .....                  | <u>72</u>          |
| \LWR@htmlsectionfilename .....      | <u>5994</u>  | \LWR@longtabledatacaptiontag .....    | <u>9803</u>        |
| LWR@htmlseqfilename (counter) ..... | <u>359</u>   | \LWR@lookforpackagename .....         | <u>1485</u>        |
| \LWR@htmllspan .....                | <u>6334</u>  | \LWR@larpconfversion .....            | <u>2072</u>        |
| \LWR@htmllspanclass .....           | <u>6342</u>  | \LWR@LwarpEnd .....                   | <u>7933, 13679</u> |
| \LWR@htmlltag .....                 | <u>6354</u>  | \LWR@LwarpStart .....                 | <u>7847, 13679</u> |
| \LWR@htmlltagc .....                | <u>6261</u>  | \LWR@maketitlesetup .....             | <u>34, 8109</u>    |
| \LWR@hyperindexref@comma .....      | <u>11215</u> | LWR@MathJax@silentquotes (boolean) .. | <u>402</u>         |
| \LWR@hyperindexref@comma .....      | <u>11208</u> | \LWR@mathjaxfilename .....            | <u>6739</u>        |
| \LWR@hyperindexref@range .....      | <u>11220</u> | \LWR@mathjaxwarn .....                | <u>13853</u>       |
| \LWR@hyperindexrefnullified .....   | <u>11189</u> | LWR@mathmacro (boolean) .....         | <u>356</u>         |
| \LWR@hyperindexrefsub .....         | <u>11223</u> | \LWR@maxfields@ (counter) .....       | <u>678</u>         |
| \LWR@hyperindexrefsubtwo .....      | <u>11230</u> | \LWR@maybe@orignewpage .....          | <u>968</u>         |
| \LWR@includecomment .....           | <u>1235</u>  | \LWR@maybenewtablerow .....           | <u>9196</u>        |
| \LWR@indentHTML .....               | <u>6255</u>  | \LWR@maybeprintpendingfootnotes ..    | <u>6870</u>        |
| \LWR@indentHTMLtwo .....            | <u>6258</u>  | \LWR@maybetodata .....                | <u>10931</u>       |
| \LWR@indexitem .....                | <u>11014</u> | LWR@midxrulecounter (counter) .....   | <u>465</u>         |
| \LWR@indexnameref .....             | <u>11143</u> | LWR@midxrules .....                   | <u>490</u>         |
| \LWR@indexnameref@anonref .....     | <u>11084</u> | LWR@minipage@depth (counter) .....    | <u>619</u>         |
| \LWR@indexnameref@cref .....        | <u>11110</u> | LWR@minipagefullwidth (boolean) ..    | <u>619</u>         |
| \LWR@indexnameref@crefnameref ..... | <u>11127</u> | \LWR@minipageheight (length) .....    | <u>618</u>         |
| \LWR@indexnameref@ref .....         | <u>11089</u> | \LWR@minipagestartpars .....          | <u>13414</u>       |
| \LWR@indexnameref@refnameref .....  | <u>11098</u> | \LWR@minipagestoppars .....           | <u>13417</u>       |
| \LWR@indexsubitem .....             | <u>11018</u> | LWR@minipagethispar (boolean) ..      | <u>619</u>         |
| \LWR@indexsubsubitem .....          | <u>11022</u> | \LWR@minipagewidth (length) .....     | <u>618</u>         |
| LWR@indisplaymathimage (boolean) .. | <u>569</u>   | \LWR@modifycolumntype .....           | <u>9047</u>        |
| \LWR@infoprocessingmathjax .....    | <u>7211</u>  | LWR@mpfootnote@store (counter) ..     | <u>619</u>         |
| LWR@insidemathcomment (boolean) ..  | <u>569</u>   | \LWR@multirowborder .....             | <u>3</u>           |
| \LWR@instertatbangcols .....        | <u>8706</u>  | \LWR@mynexttoken .....                | <u>8639</u>        |
| LWR@intabularmetadata (boolean) ..  | <u>462</u>   | \LWR@myshorttoc .....                 | <u>10800</u>       |
| \LWR@isolate .....                  | <u>947</u>   | \LWR@nameref .....                    | <u>10271</u>       |

|                                            |              |                                         |              |
|--------------------------------------------|--------------|-----------------------------------------|--------------|
| \LWR@nestspan (environment) .....          | <u>6287</u>  | \LWR@printmccoltype@colon .....         | <u>9627</u>  |
| \LWR@new@label .....                       | <u>10357</u> | \LWR@printmccoltype@ignore .....        | <u>9621</u>  |
| \LWR@newautoidanchor .....                 | <u>10655</u> | \LWR@printmccoltype@normal .....        | <u>9617</u>  |
| \LWR@newautopagelabel .....                | <u>6928</u>  | \LWR@printmccoltype@semicolon .....     | <u>9632</u>  |
| \LWR@newhtmlfile .....                     | <u>7325</u>  | \LWR@printmccoltype@vertbar .....       | <u>9622</u>  |
| \LWR@nextautoid (counter) .....            | <u>541</u>   | \LWR@printopenlist .....                | <u>8408</u>  |
| \LWR@nextautopage (counter) .....          | <u>541</u>   | \LWR@printpendingfootnotes .....        | <u>6867</u>  |
| \LWR@nextequation (counter) .....          | <u>583</u>   | \LWR@printpendingmpfootnotes .....      | <u>6879</u>  |
| \LWR@nolinkurl .....                       | <u>10515</u> | \LWR@printpercentlength .....           | <u>931</u>   |
| \LWR@notltjloadafter .....                 | <u>42</u>    | \LWR@printthetitle .....                | <u>8061</u>  |
| \LWR@notmemoirloadafter .....              | <u>39</u>    | \LWR@providelength .....                | <u>927</u>   |
| \LWR@null@newautopagelabel .....           | <u>6939</u>  | \LWR@ProvidesPackageDrop .....          | <u>1622</u>  |
| \LWR@nullfonts .....                       | <u>11334</u> | \LWR@ProvidesPackageDropA .....         | <u>1607</u>  |
| \LWR@nullifycomment .....                  | <u>1453</u>  | \LWR@ProvidesPackageDropB .....         | <u>1616</u>  |
| \LWR@nullifyNoAutoSpacing .....            | <u>10086</u> | \LWR@ProvidesPackagePass .....          | <u>1576</u>  |
| \LWR@nulllistfills .....                   | <u>8509</u>  | \LWR@pushclose .....                    | <u>5824</u>  |
| \LWR@openparagraph .....                   | <u>6576</u>  | \LWR@pushoneclose .....                 | <u>7460</u>  |
| \LWR@opttablecol (boolean) .....           | <u>462</u>   | \LWR@quickfile .....                    | <u>1629</u>  |
| \LWR@orig@setBold .....                    | <u>11489</u> | \LWR@refwithsection .....               | <u>10429</u> |
| \LWR@orig@unsetBold .....                  | <u>11490</u> | \LWR@remembertag .....                  | <u>12218</u> |
| \LWR@origcolspec .....                     | <u>8689</u>  | \LWR@replacestrings .....               | <u>7105</u>  |
| \LWR@origmathjax (boolean) .....           | <u>240</u>   | \LWR@requesttoc .....                   | <u>7926</u>  |
| \LWR@overline .....                        | <u>13311</u> | \LWR@requirepackagenames .....          | <u>1451</u>  |
| \LWR@parseaftercolumn .....                | <u>8955</u>  | \LWR@restoreMathJaxformatting ..        | <u>11282</u> |
| \LWR@parseatcolumn .....                   | <u>8855</u>  | \LWR@restoreorigaccents .....           | <u>2021</u>  |
| \LWR@parsebangcolumn .....                 | <u>8885</u>  | \LWR@restoreorigformatting ..           | <u>11283</u> |
| \LWR@parsebarcolumn .....                  | <u>8968</u>  | \LWR@restoreoriglists .....             | <u>8615</u>  |
| \LWR@parsebeforecolumn .....               | <u>8934</u>  | \LWR@rowHTMLcolor .....                 | <u>9188</u>  |
| \LWR@parsecoloncolumn .....                | <u>8993</u>  | \LWR@ruleHTMLcolor .....                | <u>9190</u>  |
| \LWR@parsedrequirepackagenames ..          | <u>1452</u>  | \LWR@sanitize .....                     | <u>1137</u>  |
| \LWR@parsenormalcolumn .....               | <u>9017</u>  | \LWR@sanitized .....                    | <u>1136</u>  |
| \LWR@parsesemicoloncolumn .....            | <u>9014</u>  | \LWR@secondoffive .....                 | <u>961</u>   |
| \LWR@parsestarcolumn .....                 | <u>9038</u>  | \LWR@section .....                      | <u>7478</u>  |
| \LWR@parsetablecols .....                  | <u>9118</u>  | \LWR@sectionnumber .....                | <u>7451</u>  |
| \LWR@parsewcolumn .....                    | <u>9034</u>  | \LWR@select@html@hspace .....           | <u>13434</u> |
| \LWR@patcherror .....                      | <u>938</u>   | \LWR@select@html@nohitespace .....      | <u>13465</u> |
| \LWR@patchlists .....                      | <u>8587</u>  | \LWR@select@print@hspac .....           | <u>13468</u> |
| \LWR@pdfencoding .....                     | <u>841</u>   | \LWR@setcurrentfont .....               | <u>11492</u> |
| \LWR@phantomsection .....                  | <u>13541</u> | \LWR@setexparray .....                  | <u>5913</u>  |
| \LWR@popclose .....                        | <u>5872</u>  | \LWR@setlatestname .....                | <u>10257</u> |
| \LWR@PreloadedPackage .....                | <u>12470</u> | \LWR@setOSWindows .....                 | <u>1051</u>  |
| \LWR@prevFileDepth (counter) .....         | <u>414</u>   | \LWR@setref .....                       | <u>10265</u> |
| \LWR@previousautopagelabel (counter) ..... | <u>395</u>   | \LWR@setseqfilelabel (boolean) .....    | <u>359</u>   |
| \LWR@printatbang .....                     | <u>9239</u>  | \LWR@setvirtualpage (environment) ..... | <u>12672</u> |
| \LWR@printbartag .....                     | <u>9229</u>  | \LWR@shellescapecmd .....               | <u>2073</u>  |
| \LWR@printchaptername .....                | <u>7475</u>  | \LWR@sitetoc .....                      | <u>10905</u> |
| \LWR@printcloselist .....                  | <u>8407</u>  | \LWR@simplifycustom .....               | <u>6965</u>  |
| \LWR@PrintLatexCmd .....                   | <u>2123</u>  | \LWR@simplifyname .....                 | <u>6954</u>  |
| \LWR@printlength .....                     | <u>1436</u>  | \LWR@singledollar .....                 | <u>11789</u> |
| \LWR@printmccoldata .....                  | <u>9662</u>  | \LWR@singledollarmmeasure .....         | <u>11564</u> |
| \LWR@printmccoldata@normal .....           | <u>9652</u>  | \LWR@skipatbang (boolean) .....         | <u>462</u>   |
| \LWR@printmccoldata@other .....            | <u>9642</u>  | \LWR@skippingmcolrowcell (boolean) ..   | <u>462</u>   |
| \LWR@printmccoldata@paragraph .....        | <u>9656</u>  | \LWR@skippingmrowcell (boolean) ..      | <u>461</u>   |
| \LWR@printmccoldata@skip .....             | <u>9648</u>  | \LWR@spandepth (counter) .....          | <u>378</u>   |
| \LWR@printmccoltype .....                  | <u>9633</u>  | \LWR@spanwarnformat .....               | <u>6271</u>  |

|                                              |              |                                             |                       |
|----------------------------------------------|--------------|---------------------------------------------|-----------------------|
| \LWR@spanwarninvalid .....                   | <u>6279</u>  | \LWR@tempcolortwo .....                     | <u>13317</u>          |
| \LWR@spewingnotes (boolean) .....            | <u>389</u>   | \LWR@tempheight (length) .....              | <u>642</u>            |
| \LWR@starredlongtable (boolean) .....        | <u>464</u>   | \LWR@tempraise (length) .....               | <u>642</u>            |
| \LWR@startedrow (boolean) .....              | <u>461</u>   | \LWR@tempwidth (length) .....               | <u>642</u>            |
| \LWR@startingequation (counter) .....        | <u>596</u>   | \LWR@textcurrentcolor .....                 | <u>24, 13322</u>      |
| \LWR@startingequationtag .....               | <u>12213</u> | \LWR@textcurrentfont .....                  | <u>13162, 13328</u>   |
| \LWR@startnewdepth .....                     | <u>7464</u>  | \LWR@thirdoffive .....                      | <u>961</u>            |
| \LWR@startpars .....                         | <u>6655</u>  | \LWR@ThisAltText .....                      | <u>11476</u>          |
| \LWR@startref .....                          | <u>10383</u> | \LWR@thisautoid (counter) .....             | <u>539</u>            |
| \LWR@stoppars .....                          | <u>6677</u>  | \LWR@thisautoidWP (counter) .....           | <u>539</u>            |
| \LWR@stripperiod .....                       | <u>10256</u> | \LWR@thiscmidrulewidth (length) .....       | <u>490</u>            |
| \LWR@strresult .....                         | <u>8687</u>  | \LWR@thiscolspec .....                      | <u>9277</u>           |
| \LWR@subaddcmidruletrim .....                | <u>9411</u>  | \LWR@thisfilename .....                     | <u>6948</u>           |
| \LWR@subaddtabularcellcolor .....            | <u>9592</u>  | \LWR@thisnewfilename .....                  | <u>6953</u>           |
| \LWR@subcdashline .....                      | <u>9379</u>  | \LWR@titlingmaketitle .....                 | <u>85, 8176</u>       |
| \LWR@subcmidrule .....                       | <u>9361</u>  | \LWR@topnavigation .....                    | <u>6067</u>           |
| \LWR@subcustomizedmathjax .....              | <u>7179</u>  | \LWR@traceinfo .....                        | <u>1698</u>           |
| \LWR@subhtmlelementclass .....               | <u>6399</u>  | \LWR@tracinglwarp (boolean) .....           | <u>264</u>            |
| \LWR@subHTMLsanitize .....                   | <u>7126</u>  | \LWR@trimlrrules .....                      | <u>490</u>            |
| \LWR@subhyperref .....                       | <u>10478</u> | \LWR@trimrrrules .....                      | <u>490</u>            |
| \LWR@subhyperrefclass .....                  | <u>10492</u> | \LWR@unknownenGINE .....                    | <u>2085</u>           |
| \LWR@subhyperreftext .....                   | <u>10487</u> | \LWR@unknownmathsize (boolean) .....        | <u>571</u>            |
| \LWR@subinlinenimage .....                   | <u>10541</u> | \LWR@url .....                              | <u>10528</u>          |
| \LWR@subnewref .....                         | <u>10414</u> | \LWR@usedmultirow (boolean) .....           | <u>462</u>            |
| \LWR@subsingledollar .....                   | <u>11692</u> | \LWR@validtablecol (boolean) .....          | <u>462</u>            |
| \LWR@subsingledollarsvg .....                | <u>11610</u> | \LWR@verbtags (boolean) .....               | <u>446</u>            |
| \LWR@subtableofcontents .....                | <u>10813</u> | \LWR@virtualpagedepth (counter) .....       | <u>618</u>            |
| \LWR@subtabularhtmlcolumns .....             | <u>9874</u>  | \LWR@vspace .....                           | <u>13472</u>          |
| \LWR@syncmathjax .....                       | <u>11928</u> | \LWR@warnbaselinemarker (boolean) .....     | <u>571</u>            |
| \LWR@syncnotenames .....                     | <u>12045</u> | \LWR@warnedcustomizemathjax (boolean) ..... | <u>404</u>            |
| \LWR@syncnotenumbers .....                   | <u>12039</u> | \LWR@WPcell .....                           | <u>9470</u>           |
| \LWR@synconenotename .....                   | <u>12040</u> | \LWR@write@lwarplabel .....                 | <u>10290</u>          |
| \LWR@synconenotenumber .....                 | <u>12034</u> | \LWR@writeconf .....                        | <u>2225</u>           |
| \LWR@tablecolspect .....                     | <u>463</u>   | \LWR@xcolorrowHTMLcolor .....               | <u>9186</u>           |
| \LWR@tablecolspectindex (counter) .....      | <u>463</u>   | \LWR@xfakebold (boolean) .....              | <u>569</u>            |
| \LWR@tablecolspectwidth (counter) .....      | <u>463</u>   | \LWR@xindex@modifyentry .....               | <u>11026</u>          |
| \LWR@tabledatacolumntag .....                | <u>9963</u>  | \LWRcreatelwarpmk (environment) .....       | <u>1300</u>           |
| \LWR@tabledatasinglecolumnntag .....         | <u>9278</u>  | \LWRopquote .....                           | <u>1046</u>           |
| \LWR@tableLaTeXcolindex (counter) .....      | <u>463</u>   | \LWRopseq .....                             | <u>1047</u>           |
| \LWR@tableparcell (boolean) .....            | <u>461</u>   | \LWRPrintStack .....                        | <u>6113</u>           |
| \LWR@tabletotalLaTeXcols (counter) .....     | <u>464</u>   | \LWRsetnextfloat .....                      | <u>10706</u>          |
| \LWR@tabletotalLaTeXcolsnext (counter) ..... | <u>464</u>   | \LWRtexttitlecase .....                     | <u>1007</u>           |
| \LWR@tabular@warpprintonly .....             | <u>10082</u> | lyluatex (package) .....                    | <u>966</u>            |
| \LWR@tabularcelladded (boolean) .....        | <u>461</u>   | \LyX .....                                  | <u>13675</u>          |
| \LWR@tabularDepth (counter) .....            | <u>463</u>   |                                             | <b>M</b>              |
| \LWR@tabularendofline .....                  | <u>8824</u>  | Mac OS (program) .....                      | <u>122, 238</u>       |
| \LWR@tabularfinishrow .....                  | <u>8775</u>  | \macrotocname .....                         | <u>1001</u>           |
| \LWR@tabularhtmlcolumns .....                | <u>9884</u>  | Madcap (program) .....                      | <u>78</u>             |
| \LWR@tabularleftedge .....                   | <u>9269</u>  | magaz (package) .....                       | <u>968</u>            |
| \LWR@tabularmutemods (boolean) .....         | <u>462</u>   | \mainmatter .....                           | <u>7441</u>           |
| \LWR@tabularpardepth (counter) .....         | <u>463</u>   | make (program) .....                        | <u>187</u>            |
| \LWR@tdaddstyle .....                        | <u>9398</u>  | \makebox .....                              | <u>12835</u>          |
| \LWR@tdendstyles .....                       | <u>9404</u>  | \makeidx (package) .....                    | <u>157, 969, 1234</u> |
| \LWR@tdstartstyles .....                     | <u>9397</u>  | \MakeIndex .....                            | <u>13653</u>          |
| \LWR@tempcolor .....                         | <u>13317</u> | \makeindex (option) .....                   | <u>110, 244</u>       |

|                                           |                      |                                    |           |
|-------------------------------------------|----------------------|------------------------------------|-----------|
| makeindex (program) . . . . .             | 143, 154             | minted (package) . . . . .         | 1006      |
| makeindexStyle (option) . . . . .         | 110, 155, 242        | mismath (package) . . . . .        | 1007      |
| \makelabel . . . . .                      | 451                  | \leftright (package) . . . . .     | 1011      |
| \maketitle . . . . .                      | 48, 125, 8132        | \mmap (package) . . . . .          | 106       |
| manyfoot (package) . . . . .              | 969                  | morefloats (package) . . . . .     | 1011      |
| marginal (package) . . . . .              | 971                  | moreverb (package) . . . . .       | 1012      |
| marginfit (package) . . . . .             | 971                  | movie15 (package) . . . . .        | 170, 1013 |
| marginfix (package) . . . . .             | 972                  | \mparhack (package) . . . . .      | 1014      |
| marginnote (package) . . . . .            | 972                  | \mrowcell . . . . .                | 10037     |
| \marginpar . . . . .                      | 130, 393, 6891       | MS-Windows (program) . . . . .     | 122, 238  |
| \marginparBlock . . . . .                 | 130, 394, 6902, 6920 | multibib (package) . . . . .       | 1015      |
| \markboth . . . . .                       | 6172                 | multicap (package) . . . . .       | 1015      |
| \markright . . . . .                      | 6173                 | multicol (package) . . . . .       | 1015      |
| marvosym (package) . . . . .              | 973                  | multicolrule (package) . . . . .   | 1017      |
| math (environment) . . . . .              | 11860                | \multicolumnrow . . . . .          | 45, 9907  |
| mathalpha (package) . . . . .             | 973                  | multimedia (package) . . . . .     | 170, 1017 |
| mathastext (package) . . . . .            | 974                  | multiobjective (package) . . . . . | 1018      |
| mathcomp (package) . . . . .              | 975                  | \multirow . . . . .                | 1020      |
| mathdesign (package) . . . . .            | 975                  | multirow (package) . . . . .       | 1019      |
| mathdots (package) . . . . .              | 977                  | multitoc (package) . . . . .       | 1023      |
| mathfixs (package) . . . . .              | 977                  | multiline (environment) . . . . .  | 82        |
| \MathImageAltText . . . . .               | 119, 11475           | multiline* (environment) . . . . . | 85        |
| MathJax (program) . . . . .               | 159, 161             | musicography (package) . . . . .   | 1023      |
| MathJax (program) [requirement] . . . . . | 81                   | mwe (package) . . . . .            | 1026      |
| mathjax (boolean) . . . . .               | 240                  |                                    |           |
| mathjax (option) . . . . .                | 108, 241             |                                    |           |
| \MathJaxFilename . . . . .                | 117, 6740            |                                    |           |
| mathpazo (package) . . . . .              | 978                  |                                    |           |
| mathptmx (package) . . . . .              | 978                  |                                    |           |
| mathspec (package) . . . . .              | 979                  |                                    |           |
| mathsvg (option) . . . . .                | 108, 241             |                                    |           |
| mathtools (package) . . . . .             | 164, 981             |                                    |           |
| mattens (package) . . . . .               | 985                  |                                    |           |
| maybemath (package) . . . . .             | 986                  |                                    |           |
| \mbox . . . . .                           | 12808                |                                    |           |
| mcaption (package) . . . . .              | 987                  |                                    |           |
| \mcolrowcell . . . . .                    | 10040                |                                    |           |
| mdframed (package) . . . . .              | 134, 987             |                                    |           |
| \mdseries . . . . .                       | 13193                |                                    |           |
| mdwmath (package) . . . . .               | 996                  |                                    |           |
| media9 (package) . . . . .                | 170, 997             |                                    |           |
| memhfixc (package) . . . . .              | 999                  |                                    |           |
| memoir (class) . . . . .                  | 179, 181, 1264       |                                    |           |
| menukeys (package) . . . . .              | 999                  |                                    |           |
| metalogo (package) . . . . .              | 1000                 |                                    |           |
| metalogox (package) . . . . .             | 1001                 |                                    |           |
| mhchem (package) . . . . .                | 1001                 |                                    |           |
| microtype (package) . . . . .             | 250, 1004            |                                    |           |
| midfloat (package) . . . . .              | 1005                 |                                    |           |
| midpage (package) . . . . .               | 1005                 |                                    |           |
| \MiKTeX . . . . .                         | 13673                |                                    |           |
| minibox (package) . . . . .               | 1005                 |                                    |           |
| minipage (environment) . . . . .          | 12701                |                                    |           |
| \minipagewidth . . . . .                  | 12686                |                                    |           |
| minitoc (package) . . . . .               | 1006                 |                                    |           |
|                                           |                      | nomencl (package) . . . . .        | 143, 1046 |

## N

|                                    |           |
|------------------------------------|-----------|
| nameauth (package) . . . . .       | 1026      |
| \Nameref . . . . .                 | 10456     |
| \nameref . . . . .                 | 10447     |
| nameref (package) . . . . .        | 1028      |
| natbib (package) . . . . .         | 1028      |
| nccfancyhdr (package) . . . . .    | 1029      |
| nccfoots (package) . . . . .       | 1030      |
| nccmath (package) . . . . .        | 1030      |
| needspace (package) . . . . .      | 1032      |
| newclude (package) . . . . .       | 181       |
| \newfloat . . . . .                | 5         |
| newfloat (package) . . . . .       | 254       |
| \newline . . . . .                 | 13405     |
| \newpage . . . . .                 | 13402     |
| newpxmath (package) . . . . .      | 1032      |
| \newtheorem . . . . .              | 449       |
| newtxmath (package) . . . . .      | 1033      |
| newtxsf (package) . . . . .        | 1034      |
| newunicodechar (package) . . . . . | 106       |
| nextpage (package) . . . . .       | 1035      |
| nfssext-cfr (package) . . . . .    | 1035      |
| nicefrac (package) . . . . .       | 165, 1042 |
| niceframe (package) . . . . .      | 1042      |
| nicematrix (package) . . . . .     | 1043      |
| \noalign . . . . .                 | 10050     |
| \nohyperpage . . . . .             | 11245     |
| noitcrl (package) . . . . .        | 1046      |
| nolbreaks (package) . . . . .      | 1046      |
| \nolinebreak . . . . .             | 13476     |
| nomencl (package) . . . . .        | 143, 1046 |

|                                     |           |                               |                    |
|-------------------------------------|-----------|-------------------------------|--------------------|
| nonfloat (package) . . . . .        | 1047      | xindyLanguage . . . . .       | 110, 242           |
| nonumonpart (package) . . . . .     | 1047      | xindyStyle . . . . .          | 110, 156, 242      |
| \nopagebreak . . . . .              | 13480     | orcidlink (package) . . . . . | 1062               |
| \nopagecolor . . . . .              | 79        | \OSPathSymbol . . . . .       | 1050               |
| nopageno (package) . . . . .        | 1047      | OSWindows (option) . . . . .  | 112, 122, 238, 243 |
| \normalcolor . . . . .              | 8         | overpic (package) . . . . .   | 170, 1063          |
| \normalfont . . . . .               | 13275     |                               |                    |
| \normalmarginpar . . . . .          | 6917      | <b>P</b>                      |                    |
| notes (package) . . . . .           | 1047      | package:                      |                    |
| notespages (package) . . . . .      | 1048      | 2in1 . . . . .                | 660                |
| nowidow (package) . . . . .         | 1048      | 2up . . . . .                 | 660                |
| ntheorem (package) . . . . .        | 164, 1049 | a4 . . . . .                  | 660                |
| \numberline . . . . .               | 10926     | a4wide . . . . .              | 661                |
| numindex (option) [tocbibind] . . . | 158, 1235 | a5comb . . . . .              | 661                |
|                                     |           | abstract . . . . .            | 140, 661           |
|                                     |           | academicons . . . . .         | 663                |
|                                     |           | accents . . . . .             | 664                |
|                                     |           | accessibility . . . . .       | 665                |
|                                     |           | accsupp . . . . .             | 666                |
|                                     |           | acro . . . . .                | 666                |
|                                     |           | acronym . . . . .             | 669                |
|                                     |           | addlines . . . . .            | 671                |
|                                     |           | adjmulticol . . . . .         | 670                |
|                                     |           | afterpage . . . . .           | 671                |
|                                     |           | algorithm2e . . . . .         | 671                |
|                                     |           | algorithmicx . . . . .        | 177, 675           |
|                                     |           | alltt . . . . .               | 676                |
|                                     |           | amscdx . . . . .              | 677                |
|                                     |           | amsmath . . . . .             | 677                |
|                                     |           | amsthm . . . . .              | 681                |
|                                     |           | anonchap . . . . .            | 686                |
|                                     |           | any size . . . . .            | 687                |
|                                     |           | appendix . . . . .            | 140, 687           |
|                                     |           | ar . . . . .                  | 688                |
|                                     |           | arabicfront . . . . .         | 689                |
|                                     |           | array . . . . .               | 689                |
|                                     |           | arydshln . . . . .            | 690                |
|                                     |           | asymptote . . . . .           | 170, 692           |
|                                     |           | atbegshi . . . . .            | 693                |
|                                     |           | attachfile . . . . .          | 694                |
|                                     |           | attachfile2 . . . . .         | 695                |
|                                     |           | authblk . . . . .             | 140, 697           |
|                                     |           | autobreak . . . . .           | 698                |
|                                     |           | autonum . . . . .             | 699                |
|                                     |           | awesomebox . . . . .          | 700                |
|                                     |           | axessibility . . . . .        | 701                |
|                                     |           | axodraw2 . . . . .            | 702                |
|                                     |           | babel . . . . .               | 181                |
|                                     |           | backnaur . . . . .            | 702                |
|                                     |           | backref . . . . .             | 703                |
|                                     |           | balance . . . . .             | 703                |
|                                     |           | bbling . . . . .              | 704                |
|                                     |           | beamerarticle . . . . .       | 709                |
|                                     |           | biblatex . . . . .            | 711                |
|                                     |           | bibunits . . . . .            | 715                |
|                                     |           | bigdelim . . . . .            | 176, 715           |

|                 |               |                |          |
|-----------------|---------------|----------------|----------|
| bigfoot         | 717           | colortbl       | 176, 777 |
| bigstrut        | 717           | comment        | 247      |
| bitpattern      | 718           | continue       | 779      |
| blowup          | 718           | copyrightbox   | 779      |
| bm              | 718           | crop           | 780      |
| booklet         | 719           | ctable         | 780      |
| bookmark        | 719           | cuted          | 783      |
| booktabs        | 720           | cutwin         | 783      |
| bophook         | 722           | dblfloatfix    | 784      |
| bounndvvi       | 722           | dblfnote       | 784      |
| boxedminipage   | 722           | dcolumn        | 785      |
| boxedminipage2e | 723           | decimal        | 785      |
| braket          | 723           | decorule       | 786      |
| breakurl        | 723           | dejavu         | 104      |
| breqn           | 724           | diagbox        | 786      |
| bsheaders       | 726           | dingbat        | 788      |
| bussproofs      | 726           | ditaa          | 188      |
| bxpaper-size    | 726           | DotArrow       | 789      |
| bytefield       | 727           | dotlessi       | 789      |
| calc            | 253           | dprogress      | 789      |
| cancel          | 727           | draftcopy      | 790      |
| canoniclayout   | 728           | draftfigure    | 790      |
| capt-of         | 544           | draftwatermark | 791      |
| caption         | 177, 544, 728 | drftcite       | 791      |
| caption3        | 730           | easy-todo      | 791      |
| cases           | 733           | ebook          | 792      |
| ccicons         | 733           | econometrics   | 793      |
| centerlastline  | 734           | ed             | 795      |
| centernot       | 734           | ellipsis       | 796      |
| changebar       | 734           | embrac         | 796      |
| changelayout    | 735           | emptypage      | 797      |
| changepage      | 736           | endfloat       | 797      |
| changes         | 736           | endheads       | 798      |
| chappg          | 741           | endnotes       | 140, 799 |
| chapterbib      | 742           | engtlc         | 800      |
| chemfig         | 742           | enotez         | 804      |
| chemformula     | 744           | enumerate      | 806      |
| chemgreek       | 749           | enumitem       | 807      |
| chemmacros      | 750           | environ        | 255      |
| chemnum         | 768           | epigraph       | 807      |
| chkfloat        | 769           | epsf           | 808      |
| chngpage        | 769           | epsfig         | 809      |
| cite            | 769           | epstopdf       | 169, 809 |
| citeref         | 770           | epstopdf-base  | 810      |
| CJK             | 770           | eqlist         | 811      |
| CJKutf8         | 770           | eqparbox       | 811      |
| classicthesis   | 771           | errata         | 812      |
| cleveref        | 136, 771      | eso-pic        | 813      |
| clrdblp         | 775           | esvect         | 814      |
| cm-super        | 104           | etoc           | 814      |
| cmap            | 106           | etoolbox       | 213      |
| cmbright        | 775           | eurosym        | 817      |
| cmdtrack        | 776           | everyhook      | 253      |
| colonequals     | 776           | everypage      | 817      |
| color           | 168, 777      | everyshi       | 818      |

|                 |          |                 |               |
|-----------------|----------|-----------------|---------------|
| expl3           | 253      | fwlw            | 869           |
| extarrows       | 818      | gensymb         | 870           |
| extramarks      | 818      | gentombow       | 870           |
| fancybox        | 133, 819 | geometry        | 250, 870      |
| fancyhdr        | 824      | getttitlestring | 253           |
| fancypar        | 825      | ghsystem        | 871           |
| fancyref        | 826      | gindex          | 145, 872      |
| fancytabs       | 827      | gloss           | 141, 873      |
| fancyvrb        | 827      | glossaries      | 142, 873      |
| fbox            | 834      | gmeometric      | 875           |
| fewerfloatpages | 837      | graphics        | 165, 876      |
| figcaps         | 837      | graphicx        | 165, 889      |
| figsize         | 837      | grffile         | 168, 889      |
| filecontents    | 253      | grid            | 889           |
| fitbox          | 838      | grid-system     | 890           |
| fix2col         | 838      | gridset         | 890           |
| fixmath         | 838      | hang            | 891           |
| fixme           | 182, 839 | hanging         | 892           |
| fixmetodonotes  | 840      | hepunits        | 893           |
| flafter         | 841      | hhline          | 894           |
| flippdf         | 841      | hhtensor        | 895           |
| float           | 177, 841 | hypbmsec        | 895           |
| floatflt        | 843      | hypcap          | 896           |
| floatpag        | 844      | hypdestopt      | 896           |
| floatrow        | 178, 844 | hypernat        | 896           |
| fltrace         | 849      | hyperref        | 137, 532, 896 |
| flushend        | 850      | hyperxmp        | 906           |
| fnbreak         | 850      | hyphenat        | 907           |
| fncychap        | 850      | idxlayout       | 908           |
| fnlineno        | 851      | ifoddpage       | 909           |
| fnpara          | 851      | ifplatform      | 213           |
| fnpos           | 852      | imakeidx        | 910           |
| fontawesome     | 852      | impnattypo      | 914           |
| fontawesome5    | 853      | indentfirst     | 384           |
| fontaxes        | 854      | index           | 914           |
| fontenc         | 106, 854 | inputenc        | 106           |
| fontspec        | 106, 249 | inputenx        | 106           |
| footmisc        | 855      | inputtrc        | 915           |
| footnote        | 856      | intopdf         | 916           |
| footnotebackref | 858      | isomath         | 916           |
| footnotehyper   | 858      | isotope         | 917           |
| footnoterange   | 858      | jurabib         | 918           |
| footnpag        | 858      | karnaugh-map    | 919           |
| foreign         | 859      | keyfloat        | 178, 922      |
| forest          | 859      | keystroke       | 928           |
| fouridx         | 860      | kotex           | 183           |
| fourier         | 860      | kpfonts         | 930           |
| framed          | 862      | kpfonts-otf     | 931           |
| froufrou        | 864      | kvoptions       | 240           |
| ftcap           | 865      | layaureo        | 933           |
| ftnright        | 865      | layout          | 933           |
| fullminipage    | 865      | layouts         | 933           |
| fullpage        | 865      | leading         | 936           |
| fullwidth       | 866      | leftidx         | 936           |
| fvextra         | 866      | letlttxmacro    | 213           |

|                                     |                |                |           |
|-------------------------------------|----------------|----------------|-----------|
| letterspace                         | 936            | maybemath      | 986       |
| lettrine                            | 937            | mcaption       | 987       |
| libertinust1math                    | 938            | mdframed       | 134, 987  |
| lineno                              | 944            | mdwmath        | 996       |
| lips                                | 947            | media9         | 170, 997  |
| lipsum                              | 947            | memhfixc       | 999       |
| listings                            | 947            | menukeys       | 999       |
| listliketab                         | 954            | metalogo       | 1000      |
| lltjext                             | 954            | metalogox      | 1001      |
| lltjp-tascmac                       | 955            | mhchem         | 1001      |
| lmodern                             | 104, 106       | microtype      | 250, 1004 |
| longtable                           | 174, 955       | midfloat       | 1005      |
| lpic                                | 958            | midpage        | 1005      |
| lscape                              | 958            | minibox        | 1005      |
| ltablex                             | 959            | minitoc        | 1006      |
| ltcaption                           | 959            | minted         | 1006      |
| ltxgrid                             | 960            | mismath        | 1007      |
| ltxtable                            | 960            | mleftright     | 1011      |
| lua-check-hyphen                    | 960            | mmap           | 106       |
| lua-visual-debug                    | 961            | morefloats     | 1011      |
| luacolor                            | 961            | moreverb       | 1012      |
| luamplib                            | 961            | movie15        | 170, 1013 |
| luatexko                            | 961            | mparhack       | 1014      |
| luatodonotes                        | 182, 964       | multibib       | 1015      |
| luavlna                             | 966            | multicap       | 1015      |
| lwarp                               | 108            | multicol       | 1015      |
| lwarp-common-mathjax-letters        | 1334           | multicolrule   | 1017      |
| lwarp-common-mathjax-newpxmath      | 1341           | multimedia     | 170, 1017 |
| lwarp-common-mathjax-nonunicode     | 1347           | multiobjective | 1018      |
| lwarp-common-mathjax-overlaysymbols | 1350           | multirow       | 1019      |
| lwarp-common-multimedia             | 1329           | multitoc       | 1023      |
| lwarp-patch-komascript              | 1298           | musicography   | 1023      |
| lwarp-patch-memoir                  | 1301           | mwe            | 1026      |
| lyluatex                            | 966            | nameauth       | 1026      |
| magaz                               | 968            | nameref        | 1028      |
| makeidx                             | 157, 969, 1234 | natbib         | 1028      |
| manyfoot                            | 969            | nccfancyhdr    | 1029      |
| marginal                            | 971            | nccfoots       | 1030      |
| marginfit                           | 971            | nccmath        | 1030      |
| marginfix                           | 972            | needspace      | 1032      |
| marginnote                          | 972            | newclude       | 181       |
| marvosym                            | 973            | newfloat       | 254       |
| mathalpha                           | 973            | newpxmath      | 1032      |
| mathastext                          | 974            | newtxmath      | 1033      |
| mathcomp                            | 975            | newtxsf        | 1034      |
| mathdesign                          | 975            | newunicodechar | 106       |
| mathdots                            | 977            | nextpage       | 1035      |
| mathfixs                            | 977            | nfs Sext-cfr   | 1035      |
| mathpazo                            | 978            | nicefrac       | 165, 1042 |
| mathptmx                            | 978            | niceframe      | 1042      |
| mathspec                            | 979            | nicematrix     | 1043      |
| mathtools                           | 164, 981       | noitcrl        | 1046      |
| mattens                             | 985            | nolbreaks      | 1046      |
|                                     |                | nomencl        | 143, 1046 |
|                                     |                | nonfloat       | 1047      |

|                  |           |                     |           |
|------------------|-----------|---------------------|-----------|
| nonumonpart      | 1047      | psfragx             | 1090      |
| nopageno         | 1047      | pst-eps             | 1090      |
| notes            | 1047      | pstool              | 169, 1091 |
| notespages       | 1048      | pstricks            | 169, 1091 |
| nowidow          | 1048      | pxatbegshi          | 1092      |
| ntheorem         | 164, 1049 | pxeveryshi          | 1092      |
| octave           | 1061      | pxfonts             | 1092      |
| orcidlink        | 1062      | pxftnright          | 1093      |
| overpic          | 170, 1063 | pxjahyper           | 1093      |
| pagegrid         | 1063      | pythontex           | 186       |
| pagenote         | 140, 1064 | quotchap            | 1093      |
| pagesel          | 1064      | quoting             | 1094      |
| paralist         | 1064      | ragged2e            | 1095      |
| parallel         | 1065      | realscripts         | 1095      |
| parcolumns       | 1067      | refcheck            | 1099      |
| parnotes         | 1069      | refcount            | 254       |
| parskip          | 1070      | register            | 1099      |
| pbalance         | 1070      | relsize             | 130, 1100 |
| pbox             | 1071      | repeatindex         | 1101      |
| pdfcol           | 1071      | repltext            | 1102      |
| pdfcolfoot       | 1072      | resizegather        | 1102      |
| pdfcolmk         | 1072      | returntogrid        | 1103      |
| pdfcolparallel   | 1072      | rlepsf              | 1103      |
| pdfcolparcolumns | 1073      | rmathbr             | 1103      |
| pdfcomment       | 1073      | rmpage              | 1104      |
| pdfcrypt         | 1074      | romanbar            | 1104      |
| pdflscape        | 1074      | romanbarpagenumber  | 1104      |
| pdfmarginpar     | 1074      | rotating            | 1105      |
| pdfpages         | 1075      | rotfloat            | 1105      |
| pdfprivacy       | 1077      | rterface            | 187       |
| pdfrender        | 1077      | rviewport           | 1106      |
| pdfsync          | 1078      | sagetex             | 186       |
| pdftricks        | 169, 1078 | savetrees           | 1106      |
| pdfx             | 1079      | scalefnt            | 1107      |
| perltx           | 186       | scalerel            | 1107      |
| perpage          | 1079      | schemata            | 1108      |
| pfnote           | 1080      | scrextend           | 1108      |
| phfqit           | 1080      | scrhack             | 1112      |
| physics          | 165, 1081 | scrlayer            | 1112      |
| physunits        | 1081      | scrlayer-notecolumn | 1114      |
| picinpar         | 1083      | scrlayer-scrpage    | 1114      |
| pifont           | 1085      | scrpage2            | 1116      |
| pinlabel         | 1085      | section             | 1117      |
| placeins         | 1086      | sectionbreak        | 1118      |
| plarydshln       | 1086      | sectsty             | 1118      |
| plex             | 1086      | selectp             | 1119      |
| plectarydshln    | 1087      | semantic-markup     | 1119      |
| plextcolortbl    | 1087      | seqsplit            | 1120      |
| plimsoll         | 1088      | setspace            | 1121      |
| polyglossia      | 182       | shadethm            | 1122      |
| prelim2e         | 1088      | shadow              | 1122      |
| prettyref        | 1088      | shapepar            | 1123      |
| preview          | 1089      | showidx             | 1123      |
| printlen         | 255       | showkeys            | 1123      |
| psfrag           | 169, 1089 | showtags            | 1124      |

|               |                |                  |                      |
|---------------|----------------|------------------|----------------------|
| shuffle       | 1124           | threadcol        | 1217                 |
| sidecap       | 1125           | threeparttable   | 1218                 |
| sidenotes     | 1126           | threeparttablex  | 175, 1219            |
| simplebnf     | 1127           | thumb            | 1220                 |
| SIunits       | 1129           | thumbs           | 1220                 |
| siunitx       | 164, 608, 1137 | tikz             | 168, 1220            |
| siunitx-v2    | 1138           | tikz-imagelabels | 1222                 |
| skmath        | 1152           | titleps          | 1222                 |
| slantsc       | 1158           | titleref         | 1225                 |
| slashed       | 1159           | titlesec         | 1225                 |
| soul          | 1159           | titletoc         | 1227                 |
| soulpos       | 1161           | titling          | 140, 1229            |
| soulutf8      | 1161           | tocbasic         | 1233                 |
| splitbib      | 1161           | tocbibind        | 157, 158, 1234, 1235 |
| splitidx      | 1162           | tocdata          | 1236                 |
| srcltx        | 1164           | tocenter         | 1237                 |
| srctex        | 1164           | tocloft          | 140, 158, 686, 1237  |
| stabular      | 1165           | tocstyle         | 1243                 |
| stackengine   | 1165           | todo             | 1244                 |
| stackrel      | 1167           | todonotes        | 182, 1245            |
| statex2       | 1167           | topcapt          | 1246                 |
| statistics    | 1171           | tram             | 1247                 |
| statmath      | 1177           | transparent      | 1247                 |
| steinmetz     | 1179           | trimclip         | 1248                 |
| stfloats      | 1179           | trivfloat        | 177, 1248            |
| struktex      | 1180           | truncate         | 1249                 |
| subcaption    | 177, 1180      | turnthepage      | 1249                 |
| subfig        | 178, 1181      | twoup            | 1250                 |
| subfigure     | 1185           | txfonts          | 1250                 |
| subsubscripts | 1186           | txgreeks         | 1250                 |
| supertabular  | 176, 1187      | typearea         | 1251                 |
| svg           | 1189           | typicons         | 1252                 |
| swfigure      | 1189           | ulem             | 1252                 |
| sympytex      | 186, 1190      | umoline          | 1254                 |
| syntonly      | 1190           | underscore       | 1255                 |
| tabfigures    | 1191           | unicode-math     | 1255                 |
| tablefootnote | 1191           | units            | 165, 1259            |
| tbls          | 1191           | unitsdef         | 1260                 |
| tabularx      | 1192           | upgreek          | 1261                 |
| tabulary      | 1192           | upref            | 1261                 |
| tagpdf        | 1193           | url              | 137, 1261            |
| tascmac       | 1196           | ushort           | 1262                 |
| tcolorbox     | 134, 1198      | uspace           | 1262                 |
| tensor        | 1203           | varioref         | 136, 1262            |
| termcal       | 1205           | verbatim         | 254                  |
| textarea      | 1206           | verse            | 181, 1263, 1264      |
| textcomp      | 106, 129, 1206 | versionotes      | 1265                 |
| textfit       | 1210           | vertbars         | 1265                 |
| textpos       | 1210           | vmargin          | 1265                 |
| theorem       | 1211           | vowel            | 1266                 |
| thinsp        | 1215           | vpe              | 1266                 |
| thm-listof    | 1215           | vwcol            | 1267                 |
| thm-restate   | 1216           | wallpaper        | 1269                 |
| thmbox        | 1216           | watermark        | 1269                 |
| thmtools      | 1217           | widetable        | 1270                 |

|                            |                |                                     |                 |
|----------------------------|----------------|-------------------------------------|-----------------|
| widows-and-orphans         | 1270           | pdfcomment (package)                | 1073            |
| witharrows                 | 1270           | pdfcrop (program) [requirement]     | 81              |
| wrapfig                    | 1272           | pdfcrypt (package)                  | 1074            |
| xbmks                      | 1273           | pdfLaTeX (program) [requirement]    | 81              |
| xcolor                     | 168, 612, 1274 | pdflscape (package)                 | 1074            |
| xexchangebar               | 1284           | pdfmarginpar (package)              | 1074            |
| xellipsis                  | 1284           | pdfpages (package)                  | 1075            |
| xetexko                    | 1285           | pdfprivacy (package)                | 1077            |
| xevlna                     | 1285           | pdfrender (package)                 | 1077            |
| xfakebold                  | 1286           | pdfseparate (program) [requirement] | 81, 86          |
| xfrac                      | 1286           | pdfsync (package)                   | 1078            |
| xifthen                    | 254            | pdftocairo (program)                | 166, 610        |
| xltabular                  | 1288           | pdftocairo (program) [requirement]  | 81, 86          |
| xltextra                   | 1289           | pdftotext (program) [requirement]   | 81, 86          |
| xmpincl                    | 1289           | pdftotextEnc (option)               | 112, 242        |
| xparse                     | 252            | pdftricks (package)                 | 169, 1078       |
| xpatch                     | 213            | pdfx (package)                      | 1079            |
| xpiano                     | 1290           | perl (program) [requirement]        | 86              |
| xpinyin                    | 1290           | perltx (package)                    | 186             |
| xr                         | 1292           | perpage (package)                   | 1079            |
| xr-hyper                   | 1292           | pfnote (package)                    | 1080            |
| xstring                    | 255            | phfqt (package)                     | 1080            |
| xtab                       | 176, 1293      | physics (package)                   | 165, 1081       |
| xunicode                   | 1294           | physunits (package)                 | 1081            |
| xurl                       | 1295           | picinpar (package)                  | 1083            |
| xy                         | 1296           | picture (environment)               | 616, 12663      |
| zhlineskip                 | 1297           | pifont (package)                    | 1085            |
| zwpagelayout               | 1297           | pinlabel (package)                  | 1085            |
| \PackageDiagramAltText     | 119, 11480     | placeins (package)                  | 1086            |
| \pagebreak                 | 13477          | plarydshln (package)                | 1086            |
| \pagecolor                 | 78             | Plastex (program)                   | 77              |
| pagegrid (package)         | 1063           | plex (package)                      | 1086            |
| pagenote (package)         | 140, 1064      | plexarydshln (package)              | 1087            |
| \pagenumbering             | 6178           | plexcolortbl (package)              | 1087            |
| \pageref                   | 10442          | plimsoll (package)                  | 1088            |
| \pagerefPageFor            | 10441          | \PN@parnotes@auto                   | 6575            |
| pagesel (package)          | 1064           | polyglossia (package)               | 182             |
| \pagestyle                 | 6170           | \postbookname                       | 7656            |
| Pandoc (program)           | 78             | \postchaptername                    | 7660            |
| \paragraph                 | 7709           | \postpartname                       | 7658            |
| paralist (package)         | 1064           | \postsectionname                    | 7662            |
| parallel (package)         | 1065           | \prebookname                        | 7656            |
| \parbox                    | 12799          | \prechaptername                     | 7660            |
| parcolumns (package)       | 1067           | \prelim2e (package)                 | 1088            |
| parnotes (package)         | 1069           | \prepartname                        | 7658            |
| \parsemulticolumnalignment | 9673           | \preselectionname                   | 7662            |
| parskip (package)          | 1070           | prettyref (package)                 | 1088            |
| \part                      | 7676           | preview (package)                   | 1089            |
| pbalance (package)         | 1070           | \printauthor                        | 434, 8069, 8088 |
| pbox (package)             | 1071           | \printdate                          | 434, 8080, 8090 |
| pdfcol (package)           | 1071           | printglossary (option) [lwarpmk]    | 142, 873        |
| pdfcolfoot (package)       | 1072           | \printindex                         | 2               |
| pdfcolmk (package)         | 1072           | PrintIndexCmd (option)              | 110, 243        |
| pdfcolparallel (package)   | 1072           | PrintLatexCmd (option)              | 110, 184, 243   |
| pdfcolparcolumns (package) | 1073           | printlen (package)                  | 255             |

|                   |                 |                               |            |
|-------------------|-----------------|-------------------------------|------------|
| \printthanks      | 434, 8046       | project.css (file)            | 121        |
| \printtitle       | 434, 8053, 8087 | project.lwarpmkconf (file)    | 284        |
| program:          |                 | psfrag (package)              | 169, 1089  |
| [requirement]:    |                 | psfragx (package)             | 1090       |
| LuaTeX            | 81              | pst-eps (package)             | 1090       |
| MathJax           | 81              | pstool (package)              | 169, 1091  |
| pdfcrop           | 81              | pstricks (package)            | 169, 1091  |
| pdfLaTeX          | 81              | pxatbegshi (package)          | 1092       |
| pdfseparate       | 81, 86          | pxeveryshi (package)          | 1092       |
| pdftocairo        | 81, 86          | pxfonts (package)             | 1092       |
| pdftotext         | 81, 86          | pxfntnright (package)         | 1093       |
| perl              | 86              | pxjahyper (package)           | 1093       |
| XeLaTeX           | 81              | pythontex (package)           | 186        |
| Adobe             | 78              |                               |            |
| AsciiDoc          | 78              |                               |            |
| AsciiDoctor       | 78              | <b>Q</b>                      |            |
| Asciidoctor-LaTeX | 78              | \quad\quad quad               | 641, 13425 |
| epstopdf          | 166, 610        | \quad\quad quad               | 641, 13420 |
| Flare             | 78              | quotation (environment)       | 8258       |
| FrameMaker        | 78              | quotchap (package)            | 1093       |
| GELLMU            | 77              | quote (environment)           | 8250       |
| GladTeX           | 77              | quoting (package)             | 1094       |
| Hevea             | 77              |                               |            |
| htlatex           | 77              | <b>R</b>                      |            |
| imakeidx          | 148             | \quad\quad ragged2e (package) | 1095       |
| InDesign          | 78              | \quad\quad raggedbottom       | 6174       |
| index             | 145             | \quad\quad raggedleft         | 12453      |
| LaTeX2HTML        | 77              | \quad\quad raggedright        | 12459      |
| latexmk           | 185             | \quad\quad raisebox           | 12987      |
| LaTeXXML          | 77              | realscripts (package)         | 1095       |
| LibreOffice       | 78              | \quad\quad ref                | 10420      |
| Linux             | 122, 238        | refcheck (package)            | 1099       |
| lwarpmk           | 200, 332        | refcount (package)            | 254        |
| lwarpmk epstopdf  | 166, 610        | \quad\quad reflectbox         | 398        |
| lwarpmk pdftosvg  | 166, 610        | register (package)            | 1099       |
| Mac OS            | 122, 238        | relsize (package)             | 130, 1100  |
| Madcap            | 78              | repeatindex (package)         | 1101       |
| make              | 187             | repltext (package)            | 1102       |
| makeindex         | 143, 154        | [requirement]:                |            |
| MathJax           | 159, 161        | LuaTeX (program)              | 81         |
| MS-Windows        | 122, 238        | MathJax (program)             | 81         |
| OpenOffice        | 78              | pdfcrop (program)             | 81         |
| Pandoc            | 78              | pdfLaTeX (program)            | 81         |
| pdftocairo        | 166, 610        | pdfseparate (program)         | 81, 86     |
| Plastex           | 77              | pdftocairo (program)          | 81, 86     |
| splitidx          | 146             | pdftotext (program)           | 81, 86     |
| TeX2page          | 77              | perl (program)                | 86         |
| TeX4ht            | 77              | XeLaTeX (program)             | 81         |
| TeXMaths          | 193             | \quad\quad \RequirePackage    | 1518       |
| TtH               | 77              | \quad\quad \resizebox         | 407        |
| Unix              | 122, 238        | resizegather (package)        | 1102       |
| Windows           | 122, 238        | \quad\quad \ResumeTabular     | 9952       |
| Word              | 78              | returntogrid (package)        | 1103       |
| xindex            | 144, 156        | \quad\quad \reversemarginpar  | 6916       |
| xindy             | 144, 155        | \rightline                    | 12467      |
|                   |                 | rlepsf (package)              | 1103       |
|                   |                 | rmathbr (package)             | 1103       |

|                                  |                |                         |            |
|----------------------------------|----------------|-------------------------|------------|
| \rmfamily                        | 13217          | siunitx-v2 (package)    | 1138       |
| \mpage (package)                 | 1104           | skmath (package)        | 1152       |
| \romanbar (package)              | 1104           | slantsc (package)       | 1158       |
| \romanbarpage{number} (package)  | 1104           | slashed (package)       | 1159       |
| \rotatebox                       | 356            | \loppy                  | 6176       |
| \rotating (package)              | 1105           | \lshape                 | 13268      |
| \rotfloat (package)              | 1105           | soul (package)          | 1159       |
| \rowcolor                        | 9191           | soulpos (package)       | 1161       |
| \rownum                          | 9183           | soulutf8 (package)      | 1161       |
| \rface (package)                 | 187            | \sp                     | 13294      |
| \rule                            | 128, 13484     | splitbib (package)      | 1161       |
| \viewport (package)              | 1106           | splitidx (package)      | 1162       |
|                                  |                | splitidx (program)      | 146        |
|                                  |                | srcctx (package)        | 1164       |
|                                  |                | srcTeX (package)        | 1164       |
| <b>S</b>                         |                | \sscshape               | 13273      |
| sagetex (package)                | 186            | stabular (package)      | 1165       |
| sample\_project.css (file)       | 121, 326       | stackengine (package)   | 1165       |
| \savetrees (package)             | 1106           | stackrel (package)      | 1167       |
| \sb                              | 13295          | \StartDefiningMath      | 5937       |
| \scalebox                        | 379            | \StartDefiningTabulars  | 5927       |
| \scalefont (package)             | 1107           | statex2 (package)       | 1167       |
| \scalerel (package)              | 1107           | statistics (package)    | 1171       |
| \schemata (package)              | 1108           | statmath (package)      | 1177       |
| \scrextend (package)             | 1108           | steinmetz (package)     | 1179       |
| \scrhack (package)               | 1112           | stfloats (package)      | 1179       |
| \scrlayer (package)              | 1112           | \StopDefiningMath       | 5941       |
| \scrlayer-note{column} (package) | 1114           | \StopDefiningTabulars   | 5931       |
| \scrlayer-scrpage (package)      | 1114           | struktex (package)      | 1180       |
| \scrpage2 (package)              | 1116           | subcaption (package)    | 177, 1180  |
| \scshape                         | 13242          | subfig (package)        | 178, 1181  |
| \section                         | 7700           | subfigure (package)     | 1185       |
| \section (package)               | 1117           | \subparagraph           | 7712       |
| \sectionbreak (package)          | 1118           | \subsection             | 7703       |
| \sectsty (package)               | 1118           | \subsubsection          | 7706       |
| \selectp (package)               | 1119           | subsubscripts (package) | 1186       |
| \semantic-markup (package)       | 1119           | supertabular (package)  | 176, 1187  |
| \seqsplit (package)              | 1120           | svg (package)           | 1189       |
| \SetHTMLFileName                 | 5979           | swfimage (package)      | 1189       |
| \setspace (package)              | 1121           | sympytex (package)      | 186, 1190  |
| \sffamily                        | 13222          | syntonly (package)      | 1190       |
| \sfrac                           | 1286           |                         |            |
| \shadethm (package)              | 1122           | <b>T</b>                |            |
| \shadow (package)                | 1122           | tabbing (environment)   | 8363       |
| \shapepar (package)              | 1123           | tabfigures (package)    | 1191       |
| \showidx (package)               | 1123           | tablefootnote (package) | 1191       |
| \showkeys (package)              | 1123           | \tableofcontents        | 118, 10832 |
| \showtags (package)              | 1124           | tabular (environment)   | 10099      |
| \shuffle (package)               | 1124           | \TabularMacro           | 9950       |
| \sidecap (package)               | 1125           | tabularx (package)      | 1192       |
| \sidenotes (package)             | 1126           | tabulary (package)      | 1192       |
| \SideTOCDepth (counter)          | 114, 549       | tagpdf (package)        | 1193       |
| \sidetocname                     | 116, 10902     | tascmac (package)       | 1196       |
| \simplebnf (package)             | 1127           | tcolorbox (package)     | 134, 1198  |
| \simplechapterdelim              | 7471           | tensor (package)        | 1203       |
| \sishape                         | 13257          |                         |            |
| \SIunits (package)               | 1129           |                         |            |
| \siunitx (package)               | 164, 608, 1137 |                         |            |

|                                          |                       |                                      |                             |
|------------------------------------------|-----------------------|--------------------------------------|-----------------------------|
| termcal (package) . . . . .              | <i>1205</i>           | tikz-imagelabels (package) . . . . . | <i>1222</i>                 |
| \TeX . . . . .                           | <u>13589</u>          | \title . . . . .                     | <i>125, 6750</i>            |
| \TeX2page (program) . . . . .            | <i>77</i>             | \titlepage (environment) . . . . .   | <i>125, 8034</i>            |
| \TeX4ht (program) . . . . .              | <i>77</i>             | \titleps (package) . . . . .         | <i>1222</i>                 |
| \TeXMaths (program) . . . . .            | <i>193</i>            | \titleref (package) . . . . .        | <i>1225</i>                 |
| \textarea (package) . . . . .            | <i>1206</i>           | \titles (option) [tocloft] . . . . . | <i>140</i>                  |
| \textbf . . . . .                        | <u>13014</u>          | \titlesec (package) . . . . .        | <i>1225</i>                 |
| \textcolor . . . . .                     | <i>65</i>             | \titletoc (package) . . . . .        | <i>1227</i>                 |
| \textcomp (package) . . . . .            | <i>106, 129, 1206</i> | \titling (package) . . . . .         | <i>140, 1229</i>            |
| \texteb . . . . .                        | <u>13022</u>          | \titlingpage (environment) . . . . . | <i>14, 125</i>              |
| \textfit (package) . . . . .             | <i>1210</i>           | \tocbasic (package) . . . . .        | <i>1233</i>                 |
| \textgreater . . . . .                   | <u>5972</u>           | [tocbibind]:                         |                             |
| \textit . . . . .                        | <u>13078</u>          | numindex (option) . . . . .          | <i>158, 1235</i>            |
| \textless . . . . .                      | <u>5970</u>           | \tocbibind (package) . . . . .       | <i>157, 158, 1234, 1235</i> |
| \textlg . . . . .                        | <u>13034</u>          | \tocdata (package) . . . . .         | <i>1236</i>                 |
| \textmd . . . . .                        | <u>13006</u>          | \tocdepth (counter) . . . . .        | <i>114</i>                  |
| \textnormal . . . . .                    | <u>13129</u>          | \toccenter (package) . . . . .       | <i>1237</i>                 |
| \textpos (package) . . . . .             | <i>1210</i>           | [tocloft]:                           |                             |
| \textrm . . . . .                        | <u>13046</u>          | titles (option) . . . . .            | <i>140</i>                  |
| \textsc . . . . .                        | <u>13086</u>          | \tocloft (package) . . . . .         | <i>140, 158, 686, 1237</i>  |
| \textsf . . . . .                        | <u>13054</u>          | \tocstyle (package) . . . . .        | <i>1243</i>                 |
| \textsi . . . . .                        | <u>13102</u>          | \todo (package) . . . . .            | <i>1244</i>                 |
| \textsl . . . . .                        | <u>13119</u>          | \todonotes (package) . . . . .       | <i>182, 1245</i>            |
| \textssc . . . . .                       | <u>13127</u>          | \topcapt (package) . . . . .         | <i>1246</i>                 |
| \textsubscript . . . . .                 | <u>13300</u>          | \tracingl warp . . . . .             | <i>207, 1697</i>            |
| \textsuperscript . . . . .               | <u>13296</u>          | \tram (package) . . . . .            | <i>1247</i>                 |
| \texttt . . . . .                        | <u>13062</u>          | \transparent (package) . . . . .     | <i>1247</i>                 |
| \textulc . . . . .                       | <u>13094</u>          | \trimclip (package) . . . . .        | <i>1248</i>                 |
| \textup . . . . .                        | <u>13070</u>          | \trivfloat (package) . . . . .       | <i>177, 1248</i>            |
| \tfl@chapter@fix . . . . .               | <i>1249</i>           | \truncate (package) . . . . .        | <i>1249</i>                 |
| \thanks . . . . .                        | <i>125</i>            | \ttfamily . . . . .                  | <u>13227</u>                |
| \thanksmarkseries . . . . .              | <i>93</i>             | \TTH (program) . . . . .             | <i>77</i>                   |
| \theauthor . . . . .                     | <i>434</i>            | \turnthepage (package) . . . . .     | <i>1249</i>                 |
| \thebibliography (environment) . . . . . | <u>11258</u>          | \tutorial.tex (file) . . . . .       | <i>87</i>                   |
| \thedate . . . . .                       | <i>434</i>            | \twoup (package) . . . . .           | <i>1250</i>                 |
| \theHTMLSection . . . . .                | <i>7746</i>           | \txfonts (package) . . . . .         | <i>1250</i>                 |
| \theHTMLTitleSection . . . . .           | <i>7745</i>           | \txgreeks (package) . . . . .        | <i>1250</i>                 |
| \theHTMLTitleSeparator . . . . .         | <i>7722</i>           | \typearea (package) . . . . .        | <i>1251</i>                 |
| \theindex (environment) . . . . .        | <u>10999</u>          | \typicons (package) . . . . .        | <i>1252</i>                 |
| \thempfootnote . . . . .                 | <u>6847</u>           |                                      | <b>U</b>                    |
| \theorem (package) . . . . .             | <i>1211</i>           | \ulcshape . . . . .                  | <u>13249</u>                |
| \thetitle . . . . .                      | <i>434</i>            | \ulem (package) . . . . .            | <i>1252</i>                 |
| \thinsp (package) . . . . .              | <i>1215</i>           | \umoline (package) . . . . .         | <i>1254</i>                 |
| \ThisAltText . . . . .                   | <i>119, 11477</i>     | \underline . . . . .                 | <u>13306</u>                |
| \thispagestyle . . . . .                 | <u>6171</u>           | \underscore (package) . . . . .      | <i>1255</i>                 |
| \thm-listof (package) . . . . .          | <i>1215</i>           | \unicode-math (package) . . . . .    | <i>1255</i>                 |
| \thm-restate (package) . . . . .         | <i>1216</i>           | \units (package) . . . . .           | <i>165, 1259</i>            |
| \thmbox (package) . . . . .              | <i>1216</i>           | \unitsdef (package) . . . . .        | <i>1260</i>                 |
| \thmtools (package) . . . . .            | <i>1217</i>           | \Unix (program) . . . . .            | <i>122, 238</i>             |
| \threadcol (package) . . . . .           | <i>1217</i>           | \up . . . . .                        | <u>13304</u>                |
| \threeparttable (package) . . . . .      | <i>1218</i>           | \upgreek (package) . . . . .         | <i>1261</i>                 |
| \threeparttablex (package) . . . . .     | <i>175, 1219</i>      | \upref (package) . . . . .           | <i>1261</i>                 |
| \thumb (package) . . . . .               | <i>1220</i>           | \upshape . . . . .                   | <u>13232</u>                |
| \thumbs (package) . . . . .              | <i>1220</i>           | \url (package) . . . . .             | <i>137, 1261</i>            |
| \tikz (package) . . . . .                | <i>168, 1220</i>      | \UseMinipageWidths . . . . .         | <i>131, 617, 12687</i>      |

|                                        |                      |                                           |                |  |
|----------------------------------------|----------------------|-------------------------------------------|----------------|--|
| ushort (package) . . . . .             | 1262                 | WPMarkMinipages (boolean) . . . . .       | 193, 271       |  |
| usingOSWindows (boolean) . . . . .     | 239                  | WPMarkTOC (boolean) . . . . .             | 193, 271       |  |
| uspace (package) . . . . .             | 1262                 | WPTitleHeading (boolean) . . . . .        | 194, 272       |  |
|                                        |                      | wrapfig (package) . . . . .               | 1272           |  |
| <b>V</b>                               |                      |                                           |                |  |
| varioref (package) . . . . .           | 136, 1262            |                                           |                |  |
| \verb . . . . .                        | 8293                 | xbmks (package) . . . . .                 | 1273           |  |
| verbatim (environment) . . . . .       | 8345                 | xcolor (package) . . . . .                | 168, 612, 1274 |  |
| verbatim (package) . . . . .           | 254                  | xchangebar (package) . . . . .            | 1284           |  |
| \VerbatimHTMLWidth (length) . . . . .  | 446                  | \XeLaTeX . . . . .                        | 13636          |  |
| \verbatiminput . . . . .               | 8337                 | XeLaTeX (program) [requirement] . . . . . | 81             |  |
| verse (environment) . . . . .          | 2, 8268              | xellipsis (package) . . . . .             | 1284           |  |
| verse (package) . . . . .              | 181, 1263, 1264      | \XeTeX . . . . .                          | 13636          |  |
| versonotes (package) . . . . .         | 1265                 | xetexko (package) . . . . .               | 1285           |  |
| vertbars (package) . . . . .           | 1265                 | xevlna (package) . . . . .                | 1285           |  |
| \vleftmargini (length) . . . . .       | 181, 444, 1263       | xfakebold (package) . . . . .             | 1286           |  |
| \vleftskip (length) . . . . .          | 181, 444, 1263, 1264 | xfrac (package) . . . . .                 | 1286           |  |
| \vmargin (package) . . . . .           | 1265                 | \xfracHTMLfontsize . . . . .              | 2              |  |
| vowel (package) . . . . .              | 1266                 | xifthen (package) . . . . .               | 254            |  |
| vpe (package) . . . . .                | 1266                 | xindex (option) . . . . .                 | 110, 244       |  |
| \vrule . . . . .                       | 129                  | xindex (program) . . . . .                | 144, 156       |  |
| \vspace . . . . .                      | 128                  | xindexConfig (option) . . . . .           | 110, 156, 242  |  |
| vwcol (package) . . . . .              | 1267                 | xindy (option) . . . . .                  | 110, 244       |  |
|                                        |                      | xindy (program) . . . . .                 | 144, 155       |  |
| <b>W</b>                               |                      |                                           |                |  |
| wallpaper (package) . . . . .          | 1269                 | xindyCodepage (option) . . . . .          | 110, 242       |  |
| warpall (environment) . . . . .        | 123, 1275            | xindyLanguage (option) . . . . .          | 110, 242       |  |
| warpHTML (environment) . . . . .       | 120, 123, 1276       | xindyStyle (option) . . . . .             | 110, 156, 242  |  |
| warpHTML (option) . . . . .            | 112, 241             | xltabular (package) . . . . .             | 1288           |  |
| \warpHTMLonly . . . . .                | 120, 124, 1233       | xltextra (package) . . . . .              | 1289           |  |
| warpingHTML (boolean) . . . . .        | 240                  | xmpincl (package) . . . . .               | 1289           |  |
| warpingprint (boolean) . . . . .       | 240                  | xparse (package) . . . . .                | 252            |  |
| warpMathJax (environment) . . . . .    | 124, 1282            | xpatch (package) . . . . .                | 213            |  |
| warpprint (environment) . . . . .      | 119, 123, 1279       | xpiano (package) . . . . .                | 1290           |  |
| warpprint (option) . . . . .           | 112, 241             | xpinyin (package) . . . . .               | 1290           |  |
| \warpprintonly . . . . .               | 120, 124, 1232       | xr (package) . . . . .                    | 1292           |  |
| warpsvg (environment) . . . . .        | 124, 1291            | xr-hyper (package) . . . . .              | 1292           |  |
| watermark (package) . . . . .          | 1269                 | xstring (package) . . . . .               | 255            |  |
| widetable (package) . . . . .          | 1270                 | xtab (package) . . . . .                  | 176, 1293      |  |
| widows-and-orphans (package) . . . . . | 1270                 | xunicode (package) . . . . .              | 1294           |  |
| Windows (program) . . . . .            | 122, 238             | xurl (package) . . . . .                  | 1295           |  |
| witharrows (package) . . . . .         | 1270                 | xy (package) . . . . .                    | 1296           |  |
| Word (program) . . . . .               | 78                   |                                           |                |  |
| WPMarkFloats (boolean) . . . . .       | 192, 271             | <b>Z</b>                                  |                |  |
| WPMarkLOFT (boolean) . . . . .         | 193, 271             | zhlineskip (package) . . . . .            | 1297           |  |
| WPMarkMath (boolean) . . . . .         | 193, 272             | zwpagelayout (package) . . . . .          | 1297           |  |

# General Index

This is an index of instructions and concepts. Look here when wondering how to do something, and check the Troubleshooting Index when something goes wrong.

| Symbols                                         |          |
|-------------------------------------------------|----------|
| \@ifnextchar with MATHJAX . . . . .             | 161      |
| \@ifstar with MATHJAX . . . . .                 | 161      |
| \, . . . . .                                    | 128      |
| \~ . . . . .                                    | 128      |
| <b>A</b>                                        |          |
| accents                                         |          |
| in section & file names . . . . .               | 412      |
| accessibility . . . . .                         | 103      |
| adapting                                        |          |
| class . . . . .                                 | 199      |
| document . . . . .                              | 102      |
| package . . . . .                               | 198      |
| affiliation                                     |          |
| multiple authors . . . . .                      | 139      |
| algorithmicx                                    |          |
| with newfloat, trivfloat . . . . .              | 1249     |
| alt text . . . . .                              | 103      |
| ARIA . . . . .                                  | 103      |
| array                                           |          |
| mhchem . . . . .                                | 1001     |
| \newcolumntype and \HTMLnewcolumntype . . . . . | 119      |
| audio . . . . .                                 | 170      |
| author                                          |          |
| HTML meta tag . . . . .                         | 126, 386 |
| multiple . . . . .                              | 139      |
| <b>B</b>                                        |          |
| baseline                                        |          |
| tabular . . . . .                               | 478      |
| bibliography                                    |          |
| HTML page and toc . . . . .                     | 139      |
| bitmapped fonts . . . . .                       | 104      |
| bugs . . . . .                                  | 201      |
| <b>C</b>                                        |          |
| <i>Calibre</i> . . . . .                        | 189      |
| chemistry                                       |          |
| Greek symbols . . . . .                         | 749      |
| class                                           |          |
| modifying for lwrap . . . . .                   | 199      |
| code listings . . . . .                         | 128      |
| compiling                                       |          |
| custom . . . . .                                | 184      |
| Computer Modern . . . . .                       | 104      |
| <b>D</b>                                        |          |
| converting                                      |          |
| class . . . . .                                 | 199      |
| document . . . . .                              | 102      |
| package . . . . .                               | 198      |
| CSS                                             |          |
| class . . . . .                                 | 122      |
| file selection . . . . .                        | 121      |
| lwrap.css . . . . .                             | 121      |
| per HTML page . . . . .                         | 121      |
| project-specific changes . . . . .              | 121      |
| span . . . . .                                  | 122      |
| ctable . . . . .                                | 176      |
| <b>D</b>                                        |          |
| danger icon . . . . .                           | 212      |
| debugging . . . . .                             | 201      |
| HTML debug comments . . . . .                   | 264      |
| tracing log . . . . .                           | 264      |
| Deja Vu . . . . .                               | 104      |
| description                                     |          |
| HTML meta tag . . . . .                         | 125, 387 |
| display math                                    |          |
| complicated objects . . . . .                   | 163      |
| document                                        |          |
| convert existing . . . . .                      | 102      |
| documentation                                   |          |
| compile . . . . .                               | 197      |
| DVI LATEX . . . . .                             | 97, 104  |
| dynamic math . . . . .                          | 163      |
| dynamic math expressions . . . . .              | 356      |
| <b>E</b>                                        |          |
| endnotes                                        |          |
| HTML page and toc . . . . .                     | 139      |
| EPS image                                       |          |
| converting . . . . .                            | 99       |
| using . . . . .                                 | 165, 610 |
| EPUB                                            |          |
| conversion software . . . . .                   | 189      |
| HTML conversion settings . . . . .              | 189, 270 |
| equation numbering                              |          |
| MATHJAX . . . . .                               | 160      |
| error messages . . . . .                        | 201      |
| export                                          |          |
| to word processor . . . . .                     | 191      |

|                                         |          |                                                     |
|-----------------------------------------|----------|-----------------------------------------------------|
|                                         | <b>F</b> |                                                     |
| FAQ . . . . .                           | 201      | horizontal space<br>between minipages . . . . . 641 |
| filename                                |          | \hrule . . . . . 129                                |
| accent in . . . . .                     | 412      | HTML                                                |
| graphics . . . . .                      | 165, 609 | alt text . . . . . 103                              |
| hashed . . . . .                        | 577, 598 | class . . . . . 122                                 |
| images . . . . .                        | 165, 609 | conversion settings . . . . . 114                   |
| international languages . . . . .       | 180      | debug comments . . . . . 264                        |
| length . . . . .                        | 116      | EPUB . . . . . 189, 270                             |
| simplify . . . . .                      | 135      | word processor . . . . . 191, 270, 271              |
| underscore in . . . . .                 | 108, 130 | conversion suggestions . . . . . 127                |
| unique . . . . .                        | 116      | <div> . . . . . 122                                 |
| font                                    |          | entities, conversion . . . . . 128                  |
| Computer Modern . . . . .               | 104      | filename generation . . . . . 120                   |
| Deja Vu . . . . .                       | 104      | headings . . . . . 211                              |
| ligatures . . . . .                     | 106      | meta tag                                            |
| packages . . . . .                      | 106      | author . . . . . 126, 386                           |
| selection . . . . .                     | 104      | description . . . . . 125, 387                      |
| size                                    |          | generator . . . . . 425                             |
| lateximage . . . . .                    | 159, 595 | title . . . . . 117, 118, 126, 386                  |
| math, SVG . . . . .                     | 159, 595 | viewport . . . . . 426                              |
| xfrac . . . . .                         | 1287     | selecting print/HTML definitions . . . . . 265      |
| type 1 vector . . . . .                 | 104      | <span> . . . . . 122                                |
| type 3 bitmapped . . . . .              | 104      | style . . . . . 122                                 |
| footnotes . . . . .                     | 387      | tabular column conversion . . . . . 479             |
| MATHJAX . . . . .                       | 137      | verbatim, in . . . . . 128                          |
| numbering . . . . .                     | 137      | \HTMLnewcolumntype and \newcolumntype . . . . . 119 |
| foreign                                 |          | hyperref                                            |
| section names . . . . .                 | 180      | and <i>xindy</i> . . . . . 143                      |
| framed objects . . . . .                | 132      | title text . . . . . 103                            |
| Frequently Asked Questions . . . . .    | 201      |                                                     |
|                                         | <b>G</b> |                                                     |
| generator                               |          | icon                                                |
| HTML meta tag . . . . .                 | 425      | warning . . . . . 212                               |
| GIF images . . . . .                    | 167, 610 | \@ifnextchar with MATHJAX . . . . . 161             |
| gindex                                  | 145      | \@ifnextstar with MATHJAX . . . . . 161             |
| gloss . . . . .                         | 141      | image                                               |
| glossaries                              |          | alt text . . . . . 103                              |
| HTML page and toc . . . . .             | 139      | file formats . . . . . 165, 610                     |
| language . . . . .                      | 142      | file names . . . . . 165, 609                       |
| options . . . . .                       | 142      | GIF . . . . . 167, 610                              |
| processing . . . . .                    | 98       | graphicx package . . . . . 609                      |
| graphics                                |          | hashed filename . . . . . 577, 598                  |
| file formats . . . . .                  | 165, 610 | PDF or EPS                                          |
| file names . . . . .                    | 165, 609 | converting . . . . . 99, 166, 610                   |
| Greek                                   |          | using . . . . . 165, 610                            |
| chemistry symbols . . . . .             | 749      | PNG and JPG . . . . . 167, 610                      |
|                                         | <b>H</b> | processing . . . . . 332                            |
| hash                                    |          | \includegraphics                                    |
| SVG image filename . . . . .            | 577, 598 | file names . . . . . 165, 609                       |
| heading, word processor . . . . .       | 194      | using . . . . . 165, 610                            |
| horizontal and vertical space . . . . . | 128      | index                                               |
| horizontal rule . . . . .               | 129      | custom display styles . . . . . 157                 |
|                                         |          | formatting . . . . . 559                            |

|                                  |                                     |                               |          |
|----------------------------------|-------------------------------------|-------------------------------|----------|
| gindex                           | line numbers .....                  | 212                           |          |
| setup .....                      | 145                                 | link                          |          |
| HTML page and toc                | 139                                 | home/previous/next page ..... | 118      |
| imakeidx                         | title text .....                    | 103                           |          |
| setup .....                      | 148                                 | list                          |          |
| index                            | empty item .....                    | 450                           |          |
| setup .....                      | 145                                 | filename .....                | 130      |
| letter headings                  | 910                                 | listings, program code .....  | 128      |
| makeindex                        | locale .....                        | 187                           |          |
| custom style file .....          | 154                                 | localization .....            | 103      |
| setup .....                      | 143                                 | LuaLaTeX                      |          |
| memoir                           | detection .....                     | 213                           |          |
| setup .....                      | 151                                 | file & section names .....    | 412      |
| placement                        | 157                                 | lwrap                         |          |
| placement and toc options        | 157, 1234                           | compiling documentation ..... | 197      |
| processing                       | 91, 92, 143                         | loading .....                 | 108      |
| see, seealso, ranges             | 143                                 | options .....                 | 108      |
| source code                      | 143                                 | lwrap.ist                     |          |
| splitidx                         | customizing .....                   | 154                           |          |
| setup .....                      | 146                                 | lwrap.xdy                     |          |
| table of contents                | 157, 1234                           | customizing .....             | 155      |
| tocbind                          | 157                                 | lwrapmk                       |          |
| UTF-8                            | 107                                 | customizing .....             | 200      |
| xindex                           |                                     | <b>M</b>                      |          |
| custom configuration file .....  | 156                                 | make utility .....            | 187      |
| setup .....                      | 144                                 | makeindex .....               | 143      |
| xindy                            | customizing .....                   | 154                           |          |
| custom style file .....          | 155                                 | margin                        |          |
| and hyperref .....               | 143                                 | numbers .....                 | 212      |
| setup .....                      | 144                                 | tags .....                    | 212      |
| inline math                      | markup languages .....              | 78                            |          |
| complicated objects .....        | 163                                 | math                          |          |
| international                    | math                                |                               |          |
| section names .....              | 180                                 | alt text .....                | 103      |
| item                             | display with complicated objects .. | 163                           |          |
| empty .....                      | 450                                 | dynamic .....                 | 163, 356 |
|                                  | MATHJAX .....                       | 160                           |          |
| <b>J</b>                         | font size — SVG .....               | 159, 595                      |          |
| JAVASCRIPT                       | inline with complicated objects ..  | 163                           |          |
| MATHJAX .....                    | MATHJAX custom functions .....      | 160                           |          |
| JPG images                       | MATHJAX summary .....               | 159                           |          |
|                                  | mathjax option .....                | 241                           |          |
| <b>L</b>                         | mathsvg option .....                | 241                           |          |
| language                         | mhchem .....                        | 1001                          |          |
| glossaries .....                 | SVG summary .....                   | 159                           |          |
| localization .....               | word processor conversion .....     | 193                           |          |
| language HTML metadata           | MATHJAX                             |                               |          |
| latextimage                      | \@ifnextchar macros .....           | 161                           |          |
| font size .....                  | \@ifstar macros .....               | 161                           |          |
| processing .....                 | accessibility .....                 | 103                           |          |
| Latin Modern font                | custom functions .....              | 160                           |          |
| LIBREOFFICE                      | custom script .....                 | 328                           |          |
| conversion recommendations ..... | equation numbering .....            | 160                           |          |
| import into .....                | mathjax option .....                | 241                           |          |
| section headings .....           | starred macros .....                | 161                           |          |
| ligatures                        | summary .....                       | 159                           |          |

|                                  |          |                               |          |
|----------------------------------|----------|-------------------------------|----------|
| \mcolrowcell                     | 174      | programs                      |          |
| MD5 hash                         |          | utility                       | 80       |
| SVG image filename               | 577, 598 | projects                      | 99       |
| memoir                           |          | \published                    | 441      |
| framewithtitle, titledframe      | 180      |                               |          |
| meta tag, HTML                   |          | <b>R</b>                      |          |
| author                           | 126, 386 | roles                         |          |
| description                      | 125, 387 | ARIO                          | 103      |
| generator                        | 425      | rule                          |          |
| title                            | 126, 386 | horizontal                    | 129      |
| viewport                         | 426      |                               |          |
| minipage                         |          | <b>S</b>                      |          |
| framed                           | 132      | section                       |          |
| horizontal space between         | 641      | depths                        | 211      |
| modifying                        |          | file names                    | 135      |
| class                            | 199      | heading, word processor       | 194      |
| document                         | 102      | international languages       | 180      |
| package                          | 198      | settings                      |          |
| \mrowcell                        | 174      | accessibility                 | 103      |
| \multicolumn                     |          | CSS project-specific          | 121      |
| with \multirow                   | 174      | CSS selection                 | 121      |
| multimedia                       | 170      | filenames                     | 114      |
| multiple projects in a directory | 99       | HTML conversion               | 114      |
| \multirow                        |          | language                      | 103      |
| with \multicolumn                | 174      | lwrap package options         | 108      |
| multirow                         |          | selecting print/HTML output   | 123      |
| \mrowcell and \mcolrowcell       | 174      | title page                    | 124      |
|                                  |          | shell escape                  | 104      |
|                                  |          | sideroc                       |          |
|                                  |          | name                          | 103      |
|                                  |          | sideroc                       |          |
|                                  |          | depth                         | 114      |
|                                  |          | siunits                       |          |
|                                  |          | with <i>TeXMaths</i>          | 193      |
|                                  |          | space                         |          |
|                                  |          | horizontal                    |          |
|                                  |          | between minipages             | 641      |
|                                  |          | horizontal and vertical       | 128      |
|                                  |          | stack depths                  | 211      |
|                                  |          | starred macros                | 161      |
|                                  |          | \StartDefiningTabulars        | 172, 458 |
|                                  |          | \subtitle                     | 441      |
|                                  |          | SVG                           |          |
|                                  |          | converting from PDF or EPS    | 99       |
|                                  |          | dynamic math                  | 356      |
|                                  |          | image processing              | 332      |
|                                  |          | math summary                  | 159      |
|                                  |          | mathsvg option                | 241      |
|                                  |          |                               |          |
|                                  |          | <b>T</b>                      |          |
|                                  |          | tabular                       |          |
|                                  |          | baseline                      | 478      |
|                                  |          | column specifier              | 172, 458 |
|                                  |          | HTML columnnn conversion      | 479      |
|                                  |          | in environments, catcode of & | 172, 458 |
|                                  |          | macros inside                 | 172, 458 |

|                                       |          |                                   |               |
|---------------------------------------|----------|-----------------------------------|---------------|
| \multicolumn with \multirow           | 174      | file & section names              | 412           |
| \multirow \mrowcell and \mcolrowcell  | 174      | index                             | 107           |
| \newcolumntype and \HTMLnewcolumntype | 119      | locale                            | 187           |
| \StartDefiningTabulars                | 172, 458 | selection                         | 104           |
| text-align                            | 173, 459 | utility                           |               |
| text-align                            | 173, 459 | programs                          | 80            |
| tikz                                  |          | V                                 |               |
| catcodes                              | 1221     | vector fonts                      | 104           |
| dollar redefined                      | 1221     | verbatim                          |               |
| title                                 |          | code and HTML tags                | 128           |
| HTML meta tag                         | 126, 386 | vertical space                    | 128           |
| titlepage                             |          | video                             | 170           |
| \subtitle and \published              | 441      | viewport                          |               |
| tracing log                           | 264      | HTML meta tag                     | 426           |
| trivfloat                             |          | W                                 |               |
| with newfloat, algorithmicx           | 1249     | warning icon                      | 212           |
| troubleshooting                       | 201      | word processor                    |               |
| HTML debug comments                   | 264      | conversion recommendations        | 194           |
| tracing log                           | 264      | HTML conversion settings          | 191, 270, 271 |
| type 1 vector fonts                   | 104      | section headings                  | 194           |
| type 3 bitmapped fonts                | 104      | X                                 |               |
| U                                     |          | xcite                             | 99            |
| underscore                            |          | XeL <sup>A</sup> T <sub>E</sub> X |               |
| filename                              | 108, 130 | detection                         | 213           |
| Unicode                               |          | file & section names              | 412           |
| enhanced coverage                     | 104      | xindex                            | 144           |
| file & section names                  | 412      | customizing                       | 156           |
| input characters                      | 231      | xindy                             | 144           |
| selection                             | 104      | and hyperref                      | 143           |
| UTF-8                                 |          | customizing                       | 155           |
| enhanced coverage                     | 104      | xr                                | 99            |
|                                       |          | xr-hyper                          | 99            |

# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries starting with page 212 are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code.

| A                                     | C                                             |
|---------------------------------------|-----------------------------------------------|
| abstract                              | bigfoot . . . . . 138, 969                    |
| missing toc . . . . . 140, 661        | booktabs . . . . . 720                        |
| accents                               | boxes . . . . . 130                           |
| file names . . . . . 412              | breqn                                         |
| acro . . . . . 183                    | darray . . . . . 724                          |
| acronym                               | bussproofs . . . . . 726                      |
| multiply-defined labels . . . . . 669 |                                               |
| \AddSubtitlePublished . . . . . 442   |                                               |
| affiliation . . . . . 435             | Calibre                                       |
| alt tags . . . . . 163, 205           | EPUB conversion . . . . . 189                 |
| amscdx . . . . . 677                  | caption                                       |
| AMSSmath                              | numbering . . . . . 177                       |
| ntheorem                              | options . . . . . 127                         |
| numbering . . . . . 164, 1049         | changes . . . . . 736                         |
| appendix                              | character encoding                            |
| incorrect toc link . . . . . 140, 687 | MATHJAX . . . . . 162                         |
| array                                 | chemfig . . . . . 183                         |
| chemformula . . . . . 183             | chemformula                                   |
| MATHJAX . . . . . 161                 | MATHJAX . . . . . 183, 744                    |
| \newcolumntype and \HTMLnewcolumntype | chemgreek                                     |
| . . . . . 119                         | fontspec mapping . . . . . 749                |
| arydshln . . . . . 690                | text-mode symbols . . . . . 749               |
| audio . . . . . 170                   | chemmacros                                    |
| authblk                               | \makopolymerdelims . . . . . 750              |
| \ttheauthor . . . . . 434, 435        | redox reactions . . . . . 750                 |
| titling . . . . . 140, 433, 697, 1229 | Chinese                                       |
| author                                | font . . . . . 128                            |
| affiliation . . . . . 435             | CJK                                           |
| formatting . . . . . 125              | font . . . . . 128                            |
| autonum . . . . . 699                 | cleveref                                      |
|                                       | cref reference format undefined . . . . . 163 |
| B                                     | cmbright . . . . . 775                        |
| babel                                 | colortbl . . . . . 176, 777                   |
| French . . . . . 181                  | Command \textquoteright invalid in            |
| backref . . . . . 703                 | math mode . . . . . 205                       |
| backref . . . . . 137                 | comment . . . . . 179, 1301                   |
| bibliography                          | compiling                                     |
| HTML page and toc . . . . . 139       | slow MATHJAX . . . . . 160                    |
| bibtex                                | cref reference format undefined . . . . . 163 |
| \etalchar . . . . . 141               | cross reference                               |
| Improper \prevdepth . . . . . 141     | incorrect link . . . . . 206                  |
| bigdelim . . . . . 176, 715           | MATHJAX . . . . . 161                         |
|                                       | missing . . . . . 205                         |

|                                        |               |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
|----------------------------------------|---------------|-----------------------------------------------------------------------------------------------------|---------------|--------|-----|------------|--|---------------|-----|-------------------|-----|---------|---------------|--------------------------|----------|---------------------|-----|--------------|----------|-------|----------|-------|----------|-------|--|----------|--|-----------|----------|---------------|----------|---------------------------------------|-----|------------------------------------|----------|-------------------------|----------|---------------------|--|----------------|----------|-----------|----------|
| CSS                                    | 207           | numbering                                                                                           | 177           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| ctable                                 | 176           | out of sequence                                                                                     | 206           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| <b>D</b>                               |               |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| dita                                   | 188           | float                                                                                               | 842           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| documentation                          |               | floatrow                                                                                            |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| index cross-references                 | 197           | \FBwidth and \FBheight                                                                              | 178, 845      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| dotless j                              | 106           | \ttbox                                                                                              | 171, 457      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| dotlessj                               | 203           | with subfig                                                                                         | 178, 845      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| duplicate filename                     | 136           | font                                                                                                |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| <b>E</b>                               |               |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| encoding                               |               | CJK                                                                                                 | 128           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| MATHJAX                                | 162           | JETBRAIN MONO                                                                                       | 106           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| \endhead, etc.                         | 174           | ligatures                                                                                           | 106           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| endnotes                               |               | missing symbols                                                                                     | 129, 1206     |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| HTML page and toc                      | 139           | monospace                                                                                           | 106           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| numbering                              | 140           | package conflicts                                                                                   | 104           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| \ensuremath                            | 204           | selection                                                                                           | 104           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| epstopdf                               | 169, 810      | small caps                                                                                          | 128           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| EPUB                                   |               | UTF-8                                                                                               | 104           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| encoding                               | 189           | fontspec                                                                                            |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| page order                             | 189           | with monospaced fonts                                                                               | 106           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| search order                           | 189           | with Xe <sup>L</sup> A <sup>T</sup> E <sub>X</sub> , Lua <sup>L</sup> A <sup>T</sup> E <sub>X</sub> | 104           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| section breaks                         | 190           | footmisc                                                                                            | 138, 387      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| equation numbering                     |               | footnote                                                                                            |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| MATHJAX                                | 160           | displaymath                                                                                         | 138, 820, 827 |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| error messages                         | 201           | in math                                                                                             | 138           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| \etalchar                              | 141           | in sectioning command                                                                               | 137           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| <b>F</b>                               |               |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| fancybox                               |               | MATHJAX                                                                                             | 137           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| \VerbatimFootnotes                     | 138, 820, 827 | memoir                                                                                              | 138, 388      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| fancypar                               | 825           | numbering                                                                                           | 137           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| fancyvrb                               |               | paragraph tags                                                                                      | 138, 820, 827 |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| \VerbatimFootnotes                     | 138, 820, 827 | sectioning, footmisc                                                                                | 138, 387      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| figure                                 |               | sectioning, verbatim                                                                                | 138, 820, 827 |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| macro in name                          | 204           | title                                                                                               | 434           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| file                                   |               | verbatim                                                                                            | 138           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| inaccessible                           | 116           | \VerbatimFootnotes                                                                                  | 138, 820, 827 |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| multiple projects in directory         | 99            | forest                                                                                              | 859           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| File ended while scanning use of \next | 203           | formatting                                                                                          |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| filename                               |               | \bfseries etc.                                                                                      | 128, 628      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| accents                                | 412           | fourier                                                                                             | 860           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| corrupted                              | 135, 180      | frames                                                                                              | 132           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| duplicate                              | 136           | framewithtitle                                                                                      | 180           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| image extension                        | 165, 609      | <b>G</b>                                                                                            |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| international, UTF-8                   | 180           | gloss                                                                                               | 141           | Korean | 183 | glossaries |  | macro in name | 135 | HTML page and toc | 139 | math in | 102, 136, 158 | makeglossaries not found | 142, 873 | Missing \$ inserted | 204 | page numbers | 142, 874 | fixme | 182, 839 | style | 142, 874 | float |  | graphics |  | alignment | 129, 177 | \graphicspath | 165, 609 | not seem to be a floating environment | 842 | \rotatebox, \scalebox, \reflectbox | 167, 611 | image format priorities | 167, 610 | image not displayed |  | duplicate file | 167, 610 | extension | 165, 609 |
| gloss                                  | 141           |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| Korean                                 | 183           | glossaries                                                                                          |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| macro in name                          | 135           | HTML page and toc                                                                                   | 139           |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| math in                                | 102, 136, 158 | makeglossaries not found                                                                            | 142, 873      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| Missing \$ inserted                    | 204           | page numbers                                                                                        | 142, 874      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| fixme                                  | 182, 839      | style                                                                                               | 142, 874      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| float                                  |               | graphics                                                                                            |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| alignment                              | 129, 177      | \graphicspath                                                                                       | 165, 609      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| not seem to be a floating environment  | 842           | \rotatebox, \scalebox, \reflectbox                                                                  | 167, 611      |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| image format priorities                | 167, 610      |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| image not displayed                    |               |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| duplicate file                         | 167, 610      |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |
| extension                              | 165, 609      |                                                                                                     |               |        |     |            |  |               |     |                   |     |         |               |                          |          |                     |     |              |          |       |          |       |          |       |  |          |  |           |          |               |          |                                       |     |                                    |          |                         |          |                     |  |                |          |           |          |

|                                        |                         |
|----------------------------------------|-------------------------|
| incorrect                              |                         |
| added or removed                       | 93, 206                 |
| page counter                           | 93, 206                 |
| multimedia                             | 170                     |
| optional arguments                     | 167, 611                |
| scale option                           | 102, 167, 611           |
| scaled                                 | 877                     |
| viewport                               | 167, 611                |
| \graphicspath                          | 167, 610                |
| Greek packages                         | 749                     |
| grffile                                | 168, 889                |
| <b>H</b>                               |                         |
| \hrule                                 | 129                     |
| HTML                                   |                         |
| &, <, >                                | 128, 628                |
| alt tags                               | 163                     |
| author                                 | 387                     |
| corrupted                              | 106, 125, 130, 203, 207 |
| entities                               | 128, 628                |
| image appear as HTML code              | 93, 206                 |
| inaccessible pages                     | 116, 118                |
| starred section                        | 140                     |
| invalid                                | 128                     |
| missing pages                          |                         |
| filename not unique                    | 116                     |
| recompile                              | 207                     |
| SideTOCDepth and FileDepth             | 116                     |
| SideTOCDepth and tocdepth              | 116                     |
| page did not update                    | 116, 207                |
| settings                               |                         |
| changed                                | 114                     |
| undefined                              | 203                     |
| validation                             | 128                     |
| \HTMLAuthor                            | 387                     |
| HTMLIndexCmd                           |                         |
| filenames                              | 111                     |
| \HTMLnewcolumntype                     | 119                     |
| hyperref                               |                         |
| backref                                | 137                     |
| comments between arguments             | 137                     |
| incorrect link                         | 206                     |
| Token not allowed in a PDF string      | 205                     |
| <b>I</b>                               |                         |
| image                                  |                         |
| appears as HTML code                   | 93, 206                 |
| filename extension                     | 165, 609                |
| format priorities                      | 167, 610                |
| incorrect                              |                         |
| added or removed                       | 93, 206                 |
| page counter                           | 93, 206                 |
| not displayed                          |                         |
| duplicate file                         | 167, 610                |
| extension                              | 165, 609                |
| svg math size and baseline             | 159                     |
| viewport                               | 167, 611                |
| Improper \prevdepth                    |                         |
| bibtex                                 | 141                     |
| boxes                                  | 204                     |
| \includegraphics                       |                         |
| optional arguments                     | 167, 611                |
| scale                                  | 102, 167, 611           |
| index                                  |                         |
| ?? and non-functional link             | 112                     |
| documentation references               | 197                     |
| empty                                  | 157                     |
| empty link                             | 136, 205                |
| formatting                             | 112, 559                |
| HTML page and toc                      | 139                     |
| missing entries                        | 143                     |
| numbers, not links                     | 255                     |
| reference ranges                       | 156                     |
| see and seealso                        | 156                     |
| styling references                     | 156                     |
| xindy                                  |                         |
| and hyperref                           | 156                     |
| xstring bug                            | 255                     |
| isomath                                | 916                     |
| <b>J</b>                               |                         |
| \j                                     | 106                     |
| Japanese                               |                         |
| font                                   | 128                     |
| JETBRAIN MONO                          | 106                     |
| <b>K</b>                               |                         |
| keyfloat                               | 178, 922                |
| Korean                                 |                         |
| font                                   | 128                     |
| kpfonts                                | 930                     |
| kpfonts-otf                            | 931                     |
| <b>L</b>                               |                         |
| label                                  |                         |
| \nameref empty                         | 136, 205                |
| characters                             | 136, 205                |
| Label(s) may have changed              | 204                     |
| LaTeX was unable to guess the total... | 204                     |
| \LateximageFontSizeName                | 596                     |
| Leaders not followed by proper glue    | 204                     |
| LibreOffice                            |                         |
| import                                 | 191                     |
| ligatures                              | 106                     |
| link                                   |                         |
| empty                                  | 136, 205                |
| LINUX                                  | 122, 238                |
| list                                   |                         |
| empty item                             | 129, 450                |
| listings                               | 206                     |
| lists                                  |                         |
| label formatting                       | 451                     |
| locale                                 | 187                     |

|                                 |                |
|---------------------------------|----------------|
| longtable                       |                |
| \endhead, etc.                  | 174            |
| lrbox                           | 130            |
| ltxtable                        |                |
| numbering                       | 960            |
| luatEX                          | 104            |
| lwarpmk.conf                    | 91, 92         |
| lwarpmk                         | 91, 92         |
| \LWRbackslash                   | 184            |
| \LWRdollar                      | 184            |
| \LWRhash                        | 184            |
| \LWRopquote                     | 184            |
| \LWRopseq                       | 184            |
| \LWRpercent                     | 184            |
| M                               |                |
| MAC OS                          | 122, 238       |
| makeglossaries                  |                |
| not found                       | 142, 873       |
| \makelabel                      | 451            |
| manyfoot                        | 138, 969       |
| \marginpar                      | 130, 393       |
| math                            |                |
| @ifnextchar macros and MATHJAX  | 161            |
| @ifstar macros and MATHJAX      | 161            |
| alt tags                        | 205            |
| appears as HTML code            | 93, 206        |
| baseline incorrect              | 159            |
| chemformula                     | 183            |
| Command \textquoteright invalid |                |
| in math mode                    | 205            |
| custom macros                   | 204            |
| dynamic                         | 356            |
| equation numbering              |                |
| MATHJAX                         | 160            |
| ntheorem                        | 164, 1049      |
| file name                       | 102, 136, 158  |
| footnote                        | 138            |
| MATHJAX                         | 137            |
| in TEX boxes                    | 159            |
| incorrect                       |                |
| added or removed                | 93, 206        |
| dynamic                         | 356            |
| non-math contents               | 205            |
| section name                    | 102, 136, 158  |
| size incorrect                  | 159            |
| slow or failed compile          | 205            |
| MATHJAX                         | 161            |
| tabbing                         | 171, 448       |
| Tikz                            | 163            |
| mathalpha                       | 973            |
| mathdesign                      | 975            |
| MATHJAX                         |                |
| @ifnextchar macros              | 161            |
| @ifstar macros                  | 161            |
| arydshln                        | 690            |
| booktabs                        | 720            |
| character encoding              | 162            |
| chemformula                     | 183, 744       |
| custom script                   | 328            |
| encoding                        | 162            |
| equation numbering              | 160            |
| errors                          | 163, 205, 356  |
| footnotes                       | 137            |
| mathtools                       | 164, 981       |
| mhchem                          | 1001           |
| \multicolumn                    | 161            |
| \multirow                       | 161, 174, 1019 |
| physics                         | 165            |
| references                      | 161            |
| siunitx                         | 165, 608, 1138 |
| slow compilation                | 160            |
| starred macros                  | 161            |
| Unicode                         | 162            |
| unicode-math                    | 1255           |
| unsupported packages            | 162, 205       |
| mathpazo                        | 978            |
| mathptmx                        | 978            |
| mathspec                        | 979            |
| mathtools                       | 164, 981       |
| maybemath                       | 987            |
| \mcolrowcell                    | 174            |
| media9                          | 170            |
| memoir                          |                |
| framewithtitle, titledframe     | 180            |
| captions                        | 179, 1301      |
| comment                         | 179, 1301      |
| footmisc                        | 138, 388       |
| options clash                   | 179, 1301      |
| page notes                      | 179, 1302      |
| verse                           |                |
| margin                          | 181, 445, 1263 |
| version clash                   | 179, 1301      |
| mhchem                          |                |
| MATHJAX                         | 1001           |
| nested dollar signs             | 1001           |
| minipage                        |                |
| alignment                       | 131, 617       |
| horizontal space between        | 641            |
| in a span                       | 131, 617       |
| inline                          | 130, 617       |
| multicols, width in             | 131, 617       |
| size                            | 131, 617       |
| tabular, width in               | 131, 617       |
| minted                          | 1006           |
| Misplaced \noalign              | 175, 956       |
| tabular                         |                |
| rules                           | 173, 459       |
| Misplaced \omit                 |                |
| tabular                         | 267            |

|                                              |                 |
|----------------------------------------------|-----------------|
| Misplaced alignment tab character &          |                 |
| <code>ctable</code>                          | 176, 780        |
| <code>floatrow</code>                        | 178, 845        |
| <code>frames</code>                          | 132             |
| <code>supertabular</code>                    | 176, 1187, 1293 |
| <code>tabular</code>                         |                 |
| <code>macros</code>                          | 171, 355, 457   |
| Missing \$ inserted                          |                 |
| <code>filename or URL</code>                 | 204             |
| Missing \begin{document}                     |                 |
| <code>package options</code>                 | 127             |
| morewrites                                   | 157, 204        |
| movie15                                      | 170             |
| \mrowcell                                    | 174             |
| MS-WINDOWS                                   | 122, 238        |
| multicol                                     |                 |
| <code>\linewidth</code>                      | 131, 617        |
| \multicolumn                                 |                 |
| <code>MATHJAX</code>                         | 161             |
| multimedia                                   | 170             |
| multiple projects in a directory             | 99              |
| multiply-defined labels                      |                 |
| <code>acronym</code>                         | 669             |
| \multirow and \multicolumn                   | 174, 1019       |
| multirow                                     |                 |
| <code>MATHJAX</code>                         | 161, 174, 1019  |
| <code>\mrowcell and \mcrowcell</code>        | 174             |
| N                                            |                 |
| newclude                                     | 181             |
| \newcolumntype                               | 119, 173, 459   |
| newpxmath                                    | 1032            |
| newtxmath                                    | 1033            |
| newtxsf                                      | 1034            |
| nicefrac                                     | 165             |
| nicematrix                                   | 1043            |
| No room for a new \write                     | 204             |
| nomencl                                      | 143             |
| ntheorem                                     | 1049            |
| <code>cref</code> reference format undefined | 163             |
| <code>font</code>                            | 164, 1049       |
| <code>numbering</code>                       | 164, 1049       |
| O                                            |                 |
| operating system                             | 122, 238        |
| options                                      |                 |
| clash with memoir                            | 179, 1301       |
| with braces                                  | 127             |
| overpic                                      | 170, 1063       |
| P                                            |                 |
| package                                      |                 |
| <code>MATHJAX support</code>                 | 162             |
| options with braces                          | 127             |
| version numbers with memoir                  | 179, 1301       |
| page                                         |                 |
| inaccessible                                 | 116             |
| page counter                                 |                 |
| references                                   | 136             |
| SVG images                                   | 93, 206         |
| page numbers                                 | 136, 205, 771   |
| pagenote                                     | 140, 1064       |
| pdftricks                                    | 169, 1078       |
| perltex                                      | 186             |
| pfnote                                       |                 |
| numbering                                    | 138, 1080       |
| physics                                      |                 |
| <code>MATHJAX</code>                         | 165             |
| polyglossia                                  |                 |
| Undefined control seq ... begindocument      | 182, 656        |
| poppler                                      |                 |
| Syntax Warning (ligature)                    | 852             |
| PrintIndexCmd                                | 111             |
| projects                                     |                 |
| multiple                                     | 99              |
| psfrag                                       | 169             |
| pstool                                       | 169, 1091       |
| pstricks                                     | 169, 1091       |
| pythontex                                    | 186             |
| R                                            |                 |
| reference                                    |                 |
| % character between arguments                | 206             |
| empty link                                   | 136, 205        |
| incorrect link                               | 206             |
| label characters                             | 136, 205        |
| <code>MATHJAX</code>                         | 161             |
| missing or incorrect                         | 205             |
| page number                                  | 136, 205, 771   |
| undefined                                    |                 |
| <code>tcolorbox</code>                       | 135             |
| repeatingindex                               | 1101            |
| rlapsf                                       | 1103            |
| rterface                                     | 187             |
| Runaway argument? File ended ...             | 203             |
| S                                            |                 |
| sample_projects.css                          |                 |
| overwritten                                  | 121             |
| \savebox                                     | 130             |
| \sbox                                        | 130             |
| scale (\includegraphics option)              |                 |
| .....                                        | 102, 167, 611   |
| sectioning                                   |                 |
| accents                                      | 412             |
| duplicate name                               | 136             |
| international language                       | 180             |
| macro in name                                | 135, 204        |
| math in name                                 | 102, 136, 158   |
| missing                                      | 116             |

|                                                |                     |
|------------------------------------------------|---------------------|
| starred section .....                          | 140                 |
| word processor import .....                    | 194                 |
| <b>seqsplit</b> .....                          | 1120                |
| <b>sidenotes</b>                               |                     |
| numbering .....                                | 137                 |
| <b>sunitx</b> .....                            | 164, 608, 1138      |
| MATHJAX .....                                  | 165, 608, 1138      |
| S column .....                                 | 173, 459            |
| tabular S and s columns ..                     | 164, 608, 1138      |
| v3 .....                                       | 164, 608, 1138      |
| with <i>TeXMaths</i> .....                     | 193                 |
| <b>small caps</b> .....                        | 128                 |
| <b>splitidx</b>                                |                     |
| \thepage and \AtWriteToIndex                   | 146, 1162           |
| <b>statistics</b> .....                        | 1171                |
| <b>subcaption</b>                              |                     |
| numbering .....                                | 177                 |
| <b>subfig</b>                                  |                     |
| inline .....                                   | 178, 1181           |
| numbering .....                                | 178, 1181           |
| options .....                                  | 178, 1181           |
| with floatrow .....                            | 178, 845            |
| <b>subtable</b>                                |                     |
| numbering                                      |                     |
| <b>subfig</b> .....                            | 178, 1181           |
| <b>SVG image</b>                               |                     |
| appears as HTML code .....                     | 93, 206             |
| <b>incorrect</b>                               |                     |
| added or removed .....                         | 206                 |
| page counter .....                             | 93, 206             |
| <b>math incorrect</b>                          |                     |
| dynamic .....                                  | 356                 |
| math size and baseline .....                   | 159                 |
| out of order .....                             | 93, 206             |
| <b>sympytex</b> .....                          | 186                 |
| <b>Syntax Warning (ligature)</b> .....         | 852                 |
| <b>T</b>                                       |                     |
| <b>tabbing</b>                                 |                     |
| math .....                                     | 171, 448            |
| <b>table</b>                                   |                     |
| macro in name .....                            | 204                 |
| numbering                                      |                     |
| ltxtable .....                                 | 960                 |
| <b>subfig</b> .....                            | 178, 1181           |
| <b>Table of Contents</b>                       |                     |
| missing .....                                  | 118                 |
| <b>tabular</b>                                 |                     |
| baselines .....                                | 477                 |
| column specifier .....                         | 172, 458            |
| corrupt rows .....                             | 171, 457, 512       |
| \endhead, \endfoot, \endlastfoot .....         | 174, 955            |
| inside an environment ..                       | 171, 457, 512       |
| \kill .....                                    | 175, 956            |
| macro inside .....                             | 172, 458            |
| <b>Misplaced \noalign</b> .....                | 173, 459            |
| <b>Misplaced alignment tab character &amp;</b> |                     |
| macros .....                                   | 171, 457            |
| rules .....                                    | 355                 |
| \multicolumn with \multirow .....              | 174                 |
| multirow \mrowcell and \mcolrowcell .....      | 174                 |
| \newcolumntype and \HTMLnewcolumntype .....    | 119, 173, 459       |
| numbering .....                                | 1288                |
| row corruption .....                           | 172, 458            |
| rules .....                                    | 173, 459            |
| S column .....                                 | 173, 459            |
| text-align .....                               | 173, 459            |
| <b>tcolorbox</b> .....                         | 134                 |
| Temporary page ... unable to guess ..          | 204                 |
| <b>tensor</b> .....                            | 1203                |
| TeX capacity exceeded                          |                     |
| Text input levels equals 15 .....              | 204                 |
| <b>TeXMaths</b> .....                          | 193                 |
| <b>text</b>                                    |                     |
| &, <, > .....                                  | 128, 628            |
| \bfseries etc. .....                           | 128, 628            |
| corrupted .....                                | 104                 |
| Text input levels equals 15 .....              | 204                 |
| <b>text-align</b> .....                        | 173, 459            |
| <b>textcomp</b>                                |                     |
| missing symbols .....                          | 129, 1206           |
| \textquoteright invalid in math mode ..        | 205                 |
| \theauthor and authblk .....                   | 434, 435            |
| <b>theorem</b>                                 |                     |
| cref reference format undefined ..             | 163                 |
| <b>threeparttable</b> .....                    | 175                 |
| <b>tikz</b>                                    |                     |
| in math .....                                  | 163                 |
| matrices, & .....                              | 168, 1220           |
| <b>title</b>                                   |                     |
| affiliation .....                              | 435                 |
| newlines .....                                 | 125                 |
| \thanks .....                                  | 434                 |
| titledframe .....                              | 180                 |
| <b>titling</b>                                 |                     |
| authblk .....                                  | 140, 433, 697, 1229 |
| hooks .....                                    | 442                 |
| <b>tocloft</b>                                 |                     |
| chapter titles .....                           | 140, 158, 686, 1237 |
| <b>todonotes</b> .....                         | 182, 964, 1245      |
| Token not allowed in a PDF string ..           | 205                 |
| tracing l warp .....                           | 207                 |
| tram .....                                     | 1247                |
| transparent .....                              | 1247                |
| <b>U</b>                                       |                     |
| Undefined control seq ... begindocument .....  | 182, 656            |
| polyglossia .....                              | 182, 656            |

|                               |          |
|-------------------------------|----------|
| <b>W</b>                      |          |
| warning messages . . . . .    | 201      |
| warpall . . . . .             | 124, 203 |
| warpHTML . . . . .            | 123, 203 |
| warpMathJax . . . . .         | 124, 203 |
| warpprint . . . . .           | 123, 203 |
| warpsvg . . . . .             | 124      |
| WINDOWS . . . . .             | 122, 238 |
| word processor                |          |
| import . . . . .              | 191      |
| sectioning headings . . . . . | 194      |
| <b>X</b>                      |          |
| xcite . . . . .               | 99       |
| xelATEX . . . . .             | 104      |
| xfakebold . . . . .           | 1286     |
| xfrac . . . . .               | 1286     |
| xindy                         |          |
| and hyperref . . . . .        | 156      |
| options                       |          |
| HTMLIndexCmd . . . . .        | 111      |
| LatexmkIndexCmd . . . . .     | 112      |
| PrintIndexCmd . . . . .       | 111      |
| xltabular                     |          |
| numbering . . . . .           | 1288     |
| xr . . . . .                  | 99       |
| xr-hyper . . . . .            | 99       |
| xstring . . . . .             | 255      |

## **Index of Indexes**

|                      |      |                             |      |
|----------------------|------|-----------------------------|------|
| <b>C</b>             |      | <b>I</b>                    |      |
| Change History ..... | 1351 | Index of Objects .....      | 1392 |
| G                    |      | T                           |      |
| General Index .....  | 1416 | Troubleshooting Index ..... | 1421 |