

# Lwarp

## LATEX HTML5

### The lwarp package

LATEX to HTML

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#### 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 `perltx` 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

<b>Support T<small>EX</small> development</b>	2
<b>List of Figures</b>	44
<b>List of Tables</b>	44
<b>1 Updates</b>	45
<b>2 Introduction</b>	66
2.1 Typesetting conventions	68
2.2 Supported packages and features	69
<b>3 Alternatives</b>	76
3.1 internet class	76
3.2 TEX4HT	76
3.3 Translators	76
3.4 ASCIIDOC and ASCIIDOCTOR	77
3.4.1 ASCIIDOCTOR-L <small>ATEX</small>	77
3.5 PANDOC	77
3.6 Word processors	77
3.7 Commercial systems	77
3.8 Comparisons	77
<b>4 Installation</b>	79
4.1 Installing the <i>lwarf</i> package	81
4.2 Installing the <i>lwarpmk</i> utility	82
4.2.1 Using a local copy of <i>lwarpmk</i>	84
4.3 Installing additional utilities	84
<b>5 Tutorial</b>	86
5.1 Starting a new project	86
5.2 Compiling the print version with <i>lwarpmk</i>	90
5.3 Compiling the HTML version with <i>lwarpmk</i>	91
5.4 Generating the SVG images	92

5.5	Using MATHJAX for math . . . . .	93
5.6	Changing the css style . . . . .	94
5.7	Customizing the HTML output . . . . .	94
5.8	Using <i>latexmk</i> . . . . .	95
5.9	Using XELATEX or LUALATEX . . . . .	96
5.10	Using DVI LATEX . . . . .	96
5.11	Using a glossary . . . . .	97
5.11.1	gloss package . . . . .	97
5.11.2	glossaries package . . . . .	97
5.12	Cleaning auxiliary files . . . . .	98
5.13	Cleaning auxiliary and output files . . . . .	98
5.14	Cleaning the images from the <project>-images directory . . . . .	98
5.15	Converting PDF or EPS images to svg . . . . .	98
5.16	Creating HTML from an incomplete compile . . . . .	98
5.17	Processing multiple projects in the same directory . . . . .	98
5.18	Using the <i>make</i> utility . . . . .	99
5.19	What next? . . . . .	100
6	Converting an existing document . . . . .	101
7	Additional details . . . . .	102
7.1	Localization . . . . .	102
7.2	Accessibility . . . . .	102
7.3	Shell escape . . . . .	103
7.4	Font and UTF-8 support . . . . .	103
7.4.1	Indexes, glossaries, and encoding . . . . .	106
7.5	lwarp package loading and options . . . . .	107
7.6	Customizing the HTML output . . . . .	113
7.6.1	Example HTML file naming . . . . .	119
7.7	Customizing the css . . . . .	120
7.8	Assigning css classes and styles . . . . .	121

7.9	Selecting the operating system . . . . .	121
7.10	Selecting actions for print, HTML, or MATHJAX output . . . . .	122
7.11	Commands to be placed into the <code>\warpprint</code> environment . . . . .	123
7.12	Title page . . . . .	123
7.13	HTML page meta descriptions . . . . .	124
7.14	HTML homepage meta title . . . . .	125
7.15	HTML page meta author . . . . .	125
<b>8</b>	<b>Special cases and limitations . . . . .</b>	<b>126</b>
8.1	Things to avoid . . . . .	126
8.1.1	Invalid HTML . . . . .	127
8.2	Formatting . . . . .	127
8.2.1	Text formatting . . . . .	127
8.2.2	Small caps . . . . .	127
8.2.3	Horizontal and vertical space and rules . . . . .	127
8.2.4	Text alignment . . . . .	128
8.2.5	Accents. . . . .	128
8.2.6	<code>textcomp</code> package . . . . .	128
8.2.7	Superscripts and other non-math uses of math mode . . . . .	128
8.2.8	Empty <code>\item</code> followed by a new line of text or a nested list: . . . . .	128
8.2.9	Filenames and URLs in lists or footnotes . . . . .	129
8.2.10	<code>relsize</code> package . . . . .	129
8.3	Boxes and minipages . . . . .	129
8.3.1	<code>Marginpars</code> . . . . .	129
8.3.2	<code>Save Boxes</code> . . . . .	129
8.3.3	<code>Minipages</code> . . . . .	129
8.3.4	Side-by-side minipages . . . . .	130
8.3.5	Framed minipages and other environments . . . . .	130
8.3.6	<code>fancybox</code> package . . . . .	132
8.3.7	<code>mdframed</code> package . . . . .	133

8.3.8	<b>tcolorbox package</b>	133
8.4	<b>Section names</b>	134
8.5	<b>Cross-references</b>	135
8.5.1	<b>Page references</b>	135
8.5.2	<b>cleveref and varioref packages</b>	135
8.5.3	<b>Hyperlinks, hyperref, and url</b>	136
8.5.4	<b>Footnotes, endnotes, and page notes</b>	136
8.5.5	<b>xr, xr-hyper, and xcite packages</b>	138
8.6	<b>Front and back matter</b>	138
8.6.1	<b>Custom classes with multiple authors and affiliations</b>	138
8.6.2	<b>Starred chapters and sections</b>	138
8.6.3	<b>abstract package</b>	139
8.6.4	<b>titling and authblk</b>	139
8.6.5	<b>tocloft package</b>	139
8.6.6	<b>appendix package</b>	139
8.6.7	<b>pagenote package</b>	139
8.6.8	<b>endnotes package</b>	139
8.6.9	<b>BibTeX</b>	140
8.6.10	<b>xcite package.</b>	140
8.6.11	<b>gloss package</b>	140
8.6.12	<b>glossaries package</b>	141
8.6.13	<b>nomencn package</b>	142
8.6.14	<b>Indexing overview</b>	142
8.6.15	<b>Indexing with makeidx, makeindex, xindy, xindex, gindex</b>	142
8.6.16	<b>Indexing with index</b>	144
8.6.17	<b>Indexing with splitidx</b>	145
8.6.18	<b>Indexing with imakeidx</b>	147
8.6.19	<b>Indexes with memoir</b>	150
8.6.20	<b>Using a custom <i>makeindex</i> style file</b>	153

8.6.21	<b>Using a custom <i>xindy</i> style file</b>	154
8.6.22	<b>Using a custom <i>xindex</i> style file</b>	155
8.6.23	<b>Additional indexing limitations</b>	155
8.6.24	<b>Index positions, toc, tocbibind</b>	156
8.7	<b>Math</b>	157
8.7.1	<b>Math in section names</b>	157
8.7.2	<b>Rendering tradeoffs</b>	157
8.7.3	<b>SVG option</b>	158
8.7.4	<b>MATHJAX option</b>	158
8.7.5	<b>Customizing MATHJAX</b>	159
8.7.6	<b>MATHJAX limitations</b>	160
8.7.7	<b>Catcode changes</b>	161
8.7.8	<b>Complicated inline math objects</b>	161
8.7.9	<b>Complicated display math objects</b>	162
8.7.10	<b>Theorems</b>	162
8.7.11	<b>ntheorem package</b>	162
8.7.12	<b>mathtools package</b>	163
8.7.13	<b>siunitx package</b>	163
8.7.14	<b>units and nicefrac packages</b>	164
8.7.15	<b>physics package</b>	164
8.8	<b>Graphics</b>	164
8.8.1	<b>tikz package</b>	166
8.8.2	<b>grffile package</b>	167
8.8.3	<b>color package</b>	167
8.8.4	<b>xcolor package</b>	167
8.8.5	<b>epstopdf package</b>	167
8.8.6	<b>pstricks package</b>	168
8.8.7	<b>pdftricks package</b>	168
8.8.8	<b>psfrag package</b>	168

8.8.9	<b>pstool package</b>	168
8.8.10	<b>asympote package</b>	169
8.8.11	<b>overpic package</b>	169
8.8.12	<b>Multimedia packages</b>	169
8.9	<b>Tabbing</b>	170
8.10	<b>Tabular</b>	170
8.10.1	<b>tabular environment</b>	170
8.10.2	<b>multirow package</b>	172
8.10.3	<b>longtable package</b>	173
8.10.4	<b>threeparttablex package</b>	174
8.10.5	<b>supertabular and xtab packages</b>	174
8.10.6	<b>colortbl package</b>	175
8.10.7	<b>ctable package</b>	175
8.10.8	<b>bigdelim package</b>	175
8.11	<b>Floats</b>	175
8.11.1	<b>Float contents alignment</b>	175
8.11.2	<b>float, trivfloat, and/or algorithmicx together</b>	176
8.11.3	<b>caption and subcaption packages</b>	176
8.11.4	<b>subfig package</b>	176
8.11.5	<b>floatrow package</b>	177
8.11.6	<b>keyfloat package</b>	177
8.12	<b>KOMA-SCRIPT classes</b>	177
8.13	<b>MEMOIR class</b>	177
8.14	<b>International languages</b>	179
8.15	<b>Miscellaneous packages</b>	179
8.15.1	<b>verse and memoir</b>	179
8.15.2	<b>newclude package</b>	180
8.15.3	<b>babel package</b>	180
8.15.4	<b>polyglossia package</b>	180

8.15.5	<b>todonotes and luatodonotes packages</b>	181
8.15.6	<b>fixme</b>	181
8.15.7	<b>acro package</b>	181
8.15.8	<b>chemfig package</b>	181
8.15.9	<b>chemformula package</b>	182
8.15.10	<b>mhchem package</b>	182
8.15.11	<b>kotex package</b>	182
<b>9</b>	<b>Compiling using custom shell commands</b>	<b>183</b>
9.1	<b>Command options</b>	183
9.2	<b>Literal character macros</b>	183
9.3	<b>latexmk</b>	184
9.4	<b>perltex package</b>	185
9.5	<b>pythontex package</b>	185
9.6	<b>Other packages</b>	185
9.7	<b>make program</b>	186
9.8	<b>UTF-8 locale</b>	186
<b>10</b>	<b>EPUB conversion</b>	<b>187</b>
<b>11</b>	<b>Word-processor conversion</b>	<b>189</b>
11.1	<b>Activating word-processor conversion</b>	189
11.2	<b>Additional modifications</b>	190
11.3	<b>Recommendations</b>	192
11.4	<b>Limitations</b>	193
<b>12</b>	<b>Modifying l warp</b>	<b>194</b>
12.1	<b>Creating a development system</b>	194
12.2	<b>Modifying a package for l warp</b>	196
12.2.1	<b>Adding a package to the l warp.dtx file</b>	197
12.3	<b>Modifying a class for l warp</b>	197
12.4	<b>Testing l warp</b>	197
12.5	<b>Modifying l warpmk</b>	198

<b>13</b>	<b>Troubleshooting</b>	<b>199</b>
13.1	l warp package error conditions and warnings	199
13.1.1	Configuration file <code>l warpmk.conf</code>	199
13.1.2	Image generation with <code>l warpmk l images</code>	199
13.1.3	Default bitmapped font	200
13.1.4	Packages	200
13.1.5	Compiling	200
13.2	Using the l warp package	201
13.2.1	Debug tracing output	205
13.3	Compiling the <code>l warp.dtx</code> file	205
<b>14</b>	<b>Trademarks</b>	<b>206</b>
<b>1</b>	<b>l warp.sty</b>	<b>207</b>
<b>15</b>	<b>Implementation</b>	<b>207</b>
<b>16</b>	<b>Section depths and HTML headings</b>	<b>208</b>
<b>17</b>	<b>Source code</b>	<b>209</b>
<b>18</b>	<b>Detecting the <code>TEX</code> engine — <code>pdflatex</code>, <code>lualatex</code>, <code>xelatex</code></b>	<b>210</b>
<b>19</b>	<b>Early package requirements</b>	<b>210</b>
<b>20</b>	<b>Package load order</b>	<b>210</b>
20.1	Tests of package load order	211
20.2	Error for disallowed packages and classes loaded before l warp	214
20.3	Enforcing package loading after l warp	217
<b>21</b>	<b>MD5 hashing</b>	<b>227</b>
<b>22</b>	<b>pdflATEX T1 and UTF-8 encoding</b>	<b>228</b>
<b>23</b>	<b>Unicode input characters</b>	<b>228</b>
<b>24</b>	<b>Avoid a bitmapped font</b>	<b>229</b>
<b>25</b>	<b>Upright quotes</b>	<b>230</b>
<b>26</b>	<b>Avoid bad font combinations</b>	<b>230</b>
<b>27</b>	<b>Miscellaneous tools</b>	<b>230</b>
27.1	Variables	230

27.2	Lengths and units . . . . .	230
27.3	Counters . . . . .	231
27.4	Patching . . . . .	231
27.5	Chinese text isolation . . . . .	232
27.6	Inserting vertical space . . . . .	232
27.7	Argument selection . . . . .	232
27.8	Inside boxes . . . . .	233
27.9	Global boxes . . . . .	233
27.10	Converting a macro name to a cs name . . . . .	234
27.11	Title case . . . . .	234
27.12	LetLtxMacros . . . . .	234
27.13	Absorbing a star . . . . .	234
<b>28</b>	<b>Operating-System portability . . . . .</b>	<b>235</b>
28.1	Literal characters . . . . .	235
28.2	Common portability code . . . . .	236
28.3	UNIX, LINUX, and MAC OS . . . . .	236
28.4	MS-WINDOWS . . . . .	237
<b>29</b>	<b>Package options . . . . .</b>	<b>237</b>
29.1	Additional options support . . . . .	241
29.2	Conditional compilation . . . . .	244
<b>30</b>	<b>Required packages . . . . .</b>	<b>246</b>
<b>31</b>	<b>Loading packages . . . . .</b>	<b>252</b>
<b>32</b>	<b>File handles . . . . .</b>	<b>258</b>
<b>33</b>	<b>Include a file . . . . .</b>	<b>259</b>
<b>34</b>	<b>Copying a file . . . . .</b>	<b>260</b>
<b>35</b>	<b>Debugging messages . . . . .</b>	<b>260</b>
<b>36</b>	<b>Defining print and HTML versions of macros and environments . . . . .</b>	<b>261</b>
<b>37</b>	<b>HTML-conversion output modifications . . . . .</b>	<b>266</b>
37.1	User-level controls . . . . .	266

37.2	Heading adjustments . . . . .	268
<b>38</b>	<b>Remembering original formatting macros</b> . . . . .	<b>269</b>
<b>39</b>	<b>Accents</b> . . . . .	<b>271</b>
<b>40</b>	<b>Configuration files</b> . . . . .	<b>273</b>
40.1	Decide whether to generate configuration files . . . . .	273
40.2	<project>.html.tex . . . . .	274
40.3	<i>l warpmk</i> configuration files . . . . .	274
40.3.1	Helper macros . . . . .	274
40.3.2	<i>l warpmk.conf</i> . . . . .	280
40.3.3	<project>.l warpmkconf . . . . .	280
40.4	<i>l warp.css</i> . . . . .	280
40.5	<i>l warp_sagebrush.css</i> . . . . .	313
40.6	<i>l warp_formal.css</i> . . . . .	317
40.7	<i>sample_project.css</i> . . . . .	321
40.8	<i>l warp.ist</i> . . . . .	322
40.9	<i>l warp.xdy</i> . . . . .	322
40.10	<i>l warp_one_limage.cmd</i> . . . . .	323
40.11	<i>l warp_mathjax.txt</i> . . . . .	324
40.12	<i>l warpmk.lua</i> — <i>l warpmk</i> option . . . . .	328
<b>41</b>	<b>Stacks</b> . . . . .	<b>346</b>
41.1	Assigning depths . . . . .	346
41.2	Closing actions . . . . .	347
41.3	Closing depths . . . . .	347
41.4	Pushing and popping the stack . . . . .	348
<b>42</b>	<b>Data arrays</b> . . . . .	<b>350</b>
<b>43</b>	<b>Localizing catcodes</b> . . . . .	<b>351</b>
<b>44</b>	<b>Localizing dynamic math</b> . . . . .	<b>352</b>
<b>45</b>	<b>HTML entities</b> . . . . .	<b>353</b>
<b>46</b>	<b>HTML filename generation</b> . . . . .	<b>353</b>

<b>47</b>	<b>Homepage link</b>	356
<b>48</b>	<b>Previous/next navigation links</b>	358
<b>49</b>	<b>\LWRPrintStack diagnostic tool</b>	359
<b>50</b>	<b>Closing stack levels</b>	360
<b>51</b>	<b>PDF pages and styles</b>	360
<b>52</b>	<b>HTML tags, spans, divs, elements</b>	362
52.1	Mapping L <sup>A</sup> T <sub>E</sub> X sections to HTML sections	362
52.2	Hook while processing tags	362
52.3	Babel-French tag modifications	363
52.4	HTML output formatting	364
52.5	HTML tags	364
52.6	Block tags and comments	367
52.7	Div class and element class	368
52.8	Single-line elements	369
52.9	HTML5 semantic elements	369
52.10	High-level block and inline classes	370
52.11	Closing HTML tags	372
<b>53</b>	<b>Paragraph handling</b>	373
<b>54</b>	<b>Paragraph start/stop handling</b>	376
<b>55</b>	<b>Indentfirst</b>	379
<b>56</b>	<b>Page headers and footers</b>	379
<b>57</b>	<b>css</b>	380
<b>58</b>	<b>MATHJAX script</b>	380
<b>59</b>	<b>Title, HTML meta author, HTML meta description</b>	381
<b>60</b>	<b>Footnotes</b>	382
60.1	Regular page footnotes	383
60.2	Minipage footnotes	383
60.3	Titlepage thanks	383
60.4	Regular page footnote implementation	383

60.5	Minipage footnote implementation . . . . .	386
60.6	Printing pending footnotes . . . . .	387
<b>61</b>	<b>Marginpars . . . . .</b>	<b>388</b>
<b>62</b>	<b>Tracking internal cross references . . . . .</b>	<b>390</b>
<b>63</b>	<b>Splitting HTML files . . . . .</b>	<b>391</b>
63.1	Sanitizing expressions for HTML . . . . .	396
63.2	Customizing MATHJAX . . . . .	399
<b>64</b>	<b>Sectioning . . . . .</b>	<b>406</b>
64.1	User-level starred section commands . . . . .	407
64.2	Book class commands . . . . .	407
64.3	Sectioning support macros . . . . .	408
64.4	Pre- and post- sectioning names . . . . .	415
64.5	\section and friends . . . . .	416
<b>65</b>	<b>Starting a new file . . . . .</b>	<b>417</b>
<b>66</b>	<b>Starting HTML output . . . . .</b>	<b>422</b>
<b>67</b>	<b>Ending HTML output . . . . .</b>	<b>425</b>
<b>68</b>	<b>Nullifying foreground/background hooks . . . . .</b>	<b>427</b>
<b>69</b>	<b>Title page . . . . .</b>	<b>428</b>
69.1	Setting the title, etc. . . . .	428
69.2	\if@titlepage . . . . .	429
69.3	Changes for \affiliation . . . . .	429
69.4	Printing the thanks . . . . .	430
69.5	Printing the title, etc. in HTML . . . . .	431
69.6	Printing the title, etc. in print form . . . . .	432
69.7	\maketitle for HTML output . . . . .	432
69.8	\published and \subtitle . . . . .	436
<b>70</b>	<b>Abstract . . . . .</b>	<b>437</b>
<b>71</b>	<b>Quote and verse . . . . .</b>	<b>437</b>
71.1	Attributions . . . . .	437

71.2	Quotes, quotations . . . . .	438
71.3	Verse . . . . .	438
71.3.1	LATEX core verse environment . . . . .	439
71.3.2	verse and memoir . . . . .	440
72	<b>Verbatim and tabbing</b> . . . . .	440
73	<b>Theorems</b> . . . . .	443
74	<b>Lists</b> . . . . .	444
74.1	List environment . . . . .	445
74.2	Itemize . . . . .	448
74.3	Enumerate . . . . .	449
74.4	Description . . . . .	449
74.5	Patching the lists . . . . .	451
75	<b>Tabular</b> . . . . .	452
75.1	Limitations . . . . .	452
75.2	Temporary package-related macros . . . . .	454
75.2.1	arydshln . . . . .	455
75.3	Token lookahead . . . . .	455
75.4	Tabular variables . . . . .	455
75.4.1	Multicolumn variables . . . . .	459
75.4.2	Longtable variables . . . . .	459
75.4.3	Midrule variables . . . . .	459
75.5	Handling &, @, !, and bar . . . . .	459
75.5.1	Handling & . . . . .	461
75.5.2	Filling an unfinished row . . . . .	462
75.6	Handling \\ . . . . .	464
75.7	Looking ahead in the column specifications . . . . .	465
75.8	Parsing @, >, <, !, bar columns . . . . .	465
75.9	Parsing 'l', 'c', or 'r' columns . . . . .	469
75.10	Parsing 'p', 'm', or 'b' columns . . . . .	470

75.11	Parsing ‘w’ columns . . . . .	470
75.12	Parsing ‘*’ columns . . . . .	470
75.13	Parsing ‘D’ columns . . . . .	471
75.14	Expanding the star column specifications . . . . .	471
75.15	Parsing the column specifications . . . . .	473
75.16	colortbl and xcolor tabular color support. . . . .	477
75.17	Starting a new row . . . . .	478
75.18	Printing vertical bar tags . . . . .	479
75.19	Printing @ or ! tags . . . . .	480
75.20	Data opening tag . . . . .	481
75.21	Midrules . . . . .	483
75.22	Cell colors . . . . .	488
75.23	Multicolumns . . . . .	492
75.23.1	Parsing multicolumns . . . . .	492
75.23.2	Multicolumn factored code. . . . .	495
75.23.3	Multicolumn. . . . .	498
75.23.4	Longtable captions . . . . .	499
75.23.5	Counting HTML tabular columns . . . . .	501
75.24	Multirow if not loaded . . . . .	502
75.25	Multicolumnrow . . . . .	503
75.26	Utility macros inside a table . . . . .	504
75.27	Special-case tabular markers . . . . .	504
75.28	Checking for a new table cell . . . . .	505
75.29	\mrowcell . . . . .	508
75.30	\mcolrowcell . . . . .	508
75.31	HTML tabular environment . . . . .	509
<b>76</b>	<b>Cross-references . . . . .</b>	<b>515</b>
76.1	Setup . . . . .	516
76.2	New l warp labels. . . . .	516

76.3	<b>Labels</b>	519
76.4	<b>References</b>	521
76.5	<b>Hyper-references</b>	524
<b>77</b>	<b>Floats</b>	<b>529</b>
77.1	<b>Float environment</b>	529
77.2	<b>Float tracking</b>	532
77.3	<b>Caption inside a float environment</b>	533
77.4	<b>Caption and LOF linking and tracking</b>	534
<b>78</b>	<b>Table of Contents, LOF, LOT</b>	<b>538</b>
78.1	<b>Reading and printing the TOC</b>	538
78.2	<b>TOC commands</b>	541
78.3	<b>Side TOC</b>	541
78.4	<b>Low-level toc line formatting</b>	543
<b>79</b>	<b>Index and glossary</b>	<b>546</b>
<b>80</b>	<b>Bibliography presentation</b>	<b>554</b>
<b>81</b>	<b>Restoring original formatting</b>	<b>555</b>
<b>82</b>	<b>Nullifying filename formatting</b>	<b>557</b>
<b>83</b>	<b>Math</b>	<b>561</b>
83.1	<b>Limitations</b>	561
83.2	<b>HTML alt tag names</b>	561
83.3	<b>Inline and display math</b>	562
83.4	<b>MATHJAX support</b>	576
83.5	<b>Equation environment</b>	579
83.6	<b>\displaymathnormal and \displaymathother</b>	582
83.7	<b>AMS Math environments</b>	584
83.7.1	<b>Support macros</b>	584
83.7.2	<b>Environment patches</b>	584
<b>84</b>	<b>Lateximages</b>	<b>587</b>
84.1	<b>Description</b>	587

84.2	Support counters and macros . . . . .	588
84.3	Font size . . . . .	589
84.4	Equation numbers . . . . .	589
84.5	HTML alt tags . . . . .	590
84.6	lateximage environment . . . . .	591
85	<b>center, flushleft, flushright</b> . . . . .	597
86	<b>Preloaded packages</b> . . . . .	599
87	<b>siunitx</b> . . . . .	601
88	<b>Graphics print-mode modifications</b> . . . . .	602
88.1	General limitations . . . . .	602
88.2	Print-mode modifications . . . . .	604
89	<b>xcolor boxes</b> . . . . .	604
90	<b>chemmacros environments</b> . . . . .	608
91	<b>cleveref</b> . . . . .	608
92	<b>Preexisting label and reference definitions</b> . . . . .	609
93	<b>picture environment</b> . . . . .	609
94	<b>Minipages and Boxes</b> . . . . .	609
94.1	Computed lengths . . . . .	610
94.2	Virtual page size . . . . .	611
94.3	Footnote handling . . . . .	611
94.4	Minipage handling . . . . .	611
94.5	\parbox, \mbox, \makebox, \framebox, \fbox, \raisebox . . . . .	615
95	<b>Direct formatting</b> . . . . .	621
96	<b>Skips, spaces, font sizes</b> . . . . .	631
97	\phantomsection . . . . .	639
98	\LaTeX and other logos . . . . .	639
99	<b>Starting and stopping l warp</b> . . . . .	643
100	<b>Loading everyshi patches</b> . . . . .	643
101	<b>Loading textcomp patches</b> . . . . .	644

102	<b>Loading amsmath, amsthm patches, centernot . . . . .</b>	644
103	<b>Loading KOMA-SCRIPT class patches . . . . .</b>	644
104	<b>Loading MEMOIR class patches . . . . .</b>	644
105	<b>ut* class patches . . . . .</b>	645
106	<b>CTEX patches . . . . .</b>	646
107	<b>kotexutf patches . . . . .</b>	647
108	<b>babel and polyglossia warnings . . . . .</b>	647
109	<b>MATHJAX warnings . . . . .</b>	648
2	<b>l warp-2in1.sty . . . . .</b>	652
3	<b>l warp-2up.sty . . . . .</b>	652
4	<b>l warp-a4.sty . . . . .</b>	652
5	<b>l warp-a4wide.sty . . . . .</b>	653
6	<b>l warp-a5comb.sty . . . . .</b>	653
7	<b>l warp-abstract.sty . . . . .</b>	653
8	<b>l warp-academicons.sty . . . . .</b>	655
9	<b>l warp-accents.sty . . . . .</b>	656
10	<b>l warp-accessibility.sty . . . . .</b>	657
11	<b>l warp-accsupp.sty . . . . .</b>	658
12	<b>l warp-acro.sty . . . . .</b>	658
13	<b>l warp-acronym.sty . . . . .</b>	661
14	<b>l warp-adjmulticol.sty . . . . .</b>	662
15	<b>l warp-addlines.sty . . . . .</b>	663
16	<b>l warp-afterpage.sty . . . . .</b>	663
17	<b>l warp-algorithm2e.sty . . . . .</b>	663
18	<b>l warp-algorithmicx.sty . . . . .</b>	667
19	<b>l warp-alltt.sty . . . . .</b>	668
20	<b>l warp-amscdx.sty . . . . .</b>	669

21	<b>l warp-amsmath.sty</b>	669
22	<b>l warp-amsthm.sty</b>	673
23	<b>l warp-anonchap.sty</b>	679
24	<b>l warp-any size.sty</b>	679
25	<b>l warp-appendix.sty</b>	679
26	<b>l warp-ar.sty</b>	680
27	<b>l warp-arabicfront.sty</b>	682
28	<b>l warp-array.sty</b>	682
29	<b>l warp-arydshln.sty</b>	682
30	<b>l warp-asymptote.sty</b>	684
31	<b>l warp-atbegshi.sty</b>	685
32	<b>l warp-attachfile.sty</b>	686
33	<b>l warp-attachfile2.sty</b>	687
34	<b>l warp-authblk.sty</b>	689
35	<b>l warp-autobreak.sty</b>	690
36	<b>l warp-autonum.sty</b>	691
37	<b>l warp-awesomebox.sty</b>	692
38	<b>l warp-axessibility.sty</b>	693
39	<b>l warp-axodraw2.sty</b>	694
40	<b>l warp-backnaur.sty</b>	694
41	<b>l warp-backref.sty</b>	695
42	<b>l warp-balance.sty</b>	695
43	<b>l warp-bbding.sty</b>	696
44	<b>l warp-bib latex.sty</b>	700
45	<b>l warp-bibunits.sty</b>	705
46	<b>l warp-bigdelim.sty</b>	705
47	<b>l warp-bigfoot.sty</b>	706

48	<b>l warp-bigstrut.sty</b>	707
49	<b>l warp-bitpattern.sty</b>	707
50	<b>l warp-blowup.sty</b>	708
51	<b>l warp-bm.sty</b>	708
52	<b>l warp-booklet.sty</b>	709
53	<b>l warp-bookmark.sty</b>	709
54	<b>l warp-booktabs.sty</b>	710
55	<b>l warp-bophook.sty</b>	712
56	<b>l warp-bounddvi.sty</b>	712
57	<b>l warp-boxedminipage.sty</b>	712
58	<b>l warp-boxedminipage2e.sty</b>	713
59	<b>l warp-braket.sty</b>	713
60	<b>l warp-breakurl.sty</b>	713
61	<b>l warp-breqn.sty</b>	714
62	<b>l warp-bsheaders.sty</b>	715
63	<b>l warp-bussproofs.sty</b>	716
64	<b>l warp-bxpaper-size.sty</b>	716
65	<b>l warp-bytefield.sty</b>	716
66	<b>l warp-cancel.sty</b>	717
67	<b>l warp-canonicallayout.sty</b>	718
68	<b>l warp-caption.sty</b>	718
69	<b>l warp-caption3.sty</b>	720
70	<b>l warp-cases.sty</b>	722
71	<b>l warp-ccicons.sty</b>	723
72	<b>l warp-centerlastline.sty</b>	724
73	<b>l warp-centernot.sty</b>	724
74	<b>l warp-changebar.sty</b>	724

75	<b>l warp-changelayout.sty</b>	725
76	<b>l warp-changepage.sty</b>	725
77	<b>l warp-changes.sty</b>	726
78	<b>l warp-chappg.sty</b>	731
79	<b>l warp-chapterbib.sty</b>	731
80	<b>l warp-chemfig.sty</b>	732
81	<b>l warp-chemformula.sty</b>	734
82	<b>l warp-chemgreek.sty</b>	739
83	<b>l warp-chemmacros.sty</b>	739
191	<b>chemmacros</b>	739
191.1	Changes to the user's document	740
191.2	Code	740
191.3	Loading modules	740
191.4	New environments	741
191.5	Acid-base	741
191.6	Charges	743
191.7	Nomenclature	743
191.8	Particles	745
191.9	Phases	746
191.10	Mechanisms	747
191.11	Newman	749
191.12	Orbital	749
191.13	Reactions	750
191.14	Redox	750
191.15	Scheme	751
191.16	Spectroscopy	752
191.17	Thermodynamics	756
84	<b>l warp-chemnum.sty</b>	758

85	<b>l warp-chkfloat.sty</b>	759
86	<b>l warp-chngpage.sty</b>	759
87	<b>l warp-cite.sty</b>	759
88	<b>l warp-citeref.sty</b>	760
89	<b>l warp-CJK.sty</b>	760
90	<b>l warp-CJKUtf8.sty</b>	760
91	<b>l warp-classicthesis.sty</b>	761
92	<b>l warp-cleveref.sty</b>	761
93	<b>l warp-clrdblpg.sty</b>	765
94	<b>l warp-cmbright.sty</b>	765
95	<b>l warp-cmdtrack.sty</b>	766
96	<b>l warp-colonequals.sty</b>	766
97	<b>l warp-color.sty</b>	767
98	<b>l warp-colortbl.sty</b>	767
99	<b>l warp-continue.sty</b>	769
100	<b>l warp-copyrightbox.sty</b>	769
101	<b>l warp-crop.sty</b>	770
102	<b>l warp-ctable.sty</b>	770
103	<b>l warp-cuted.sty</b>	773
104	<b>l warp-cutwin.sty</b>	773
105	<b>l warp-dblfloatfix.sty</b>	774
106	<b>l warp-dblfnote.sty</b>	774
107	<b>l warp-dcolumn.sty</b>	774
108	<b>l warp-decimal.sty</b>	775
109	<b>l warp-decorule.sty</b>	775
110	<b>l warp-diagbox.sty</b>	775
111	<b>l warp-dingbat.sty</b>	777

112	<b>l warp-DotArrow.sty</b>	778
113	<b>l warp-dotlessi.sty</b>	778
114	<b>l warp-dprogress.sty</b>	779
115	<b>l warp-draftcopy.sty</b>	779
116	<b>l warp-draftfigure.sty</b>	779
117	<b>l warp-draftwatermark.sty</b>	780
118	<b>l warp-drftcite.sty</b>	780
119	<b>l warp-easy-todo.sty</b>	781
120	<b>l warp-ebook.sty</b>	782
121	<b>l warp-econometrics.sty</b>	782
122	<b>l warp-ed.sty</b>	785
123	<b>l warp-ellipsis.sty</b>	785
124	<b>l warp-embrac.sty</b>	786
125	<b>l warp-emptypage.sty</b>	786
126	<b>l warp-endfloat.sty</b>	787
127	<b>l warp-endheads.sty</b>	787
128	<b>l warp-endnotes.sty</b>	788
129	<b>l warp-engtlc.sty</b>	789
130	<b>l warp-enotez.sty</b>	793
131	<b>l warp-enumerate.sty</b>	796
132	<b>l warp-enumitem.sty</b>	796
133	<b>l warp-epigraph.sty</b>	796
134	<b>l warp-epsf.sty</b>	797
135	<b>l warp-epsfig.sty</b>	798
136	<b>l warp-epstopdf.sty</b>	798
137	<b>l warp-epstopdf-base.sty</b>	799
138	<b>l warp-eqlist.sty</b>	800

139	<b>l warp-eqparbox.sty</b>	800
140	<b>l warp-errata.sty</b>	801
141	<b>l warp-eso-pic.sty</b>	802
142	<b>l warp-esvect.sty</b>	803
143	<b>l warp-etoc.sty</b>	803
144	<b>l warp-eurosym.sty</b>	806
145	<b>l warp-everypage.sty</b>	806
146	<b>l warp-everyshi.sty</b>	807
147	<b>l warp-extarrows.sty</b>	807
148	<b>l warp-extramarks.sty</b>	807
149	<b>l warp-fancybox.sty</b>	808
150	<b>l warp-fancyhdr.sty</b>	813
151	<b>l warp-fancypar.sty</b>	814
152	<b>l warp-fancyref.sty</b>	815
153	<b>l warp-fancytabs.sty</b>	816
154	<b>l warp-fancyvrb.sty</b>	816
155	<b>l warp-fbox.sty</b>	823
156	<b>l warp-fewerfloatpages.sty</b>	826
157	<b>l warp-figcaps.sty</b>	826
158	<b>l warp-figsize.sty</b>	826
159	<b>l warp-fitbox.sty</b>	827
160	<b>l warp-fix2col.sty</b>	827
161	<b>l warp-fixmath.sty</b>	827
162	<b>l warp-fixme.sty</b>	828
163	<b>l warp-fixmetodonotes.sty</b>	829
164	<b>l warp-flafter.sty</b>	830
165	<b>l warp-flippdf.sty</b>	830

166	<b>l warp-float.sty</b>	830
167	<b>l warp-floatflt.sty</b>	832
168	<b>l warp-floatpag.sty</b>	833
169	<b>l warp-floatrow.sty</b>	833
170	<b>l warp-fltrace.sty</b>	838
171	<b>l warp-flushend.sty</b>	839
172	<b>l warp-fnbreak.sty</b>	839
173	<b>l warp-fncychap.sty</b>	839
174	<b>l warp-fnlineno.sty</b>	840
175	<b>l warp-fnpara.sty</b>	840
176	<b>l warp-fnpos.sty</b>	840
177	<b>l warp-fontawesome.sty</b>	841
178	<b>l warp-fontawesome5.sty</b>	842
179	<b>l warp-fontaxes.sty</b>	843
180	<b>l warp-fontenc.sty</b>	843
181	<b>l warp-footmisc.sty</b>	844
182	<b>l warp-footnote.sty</b>	845
183	<b>l warp-footnotebackref.sty</b>	846
184	<b>l warp-footnotehyper.sty</b>	846
185	<b>l warp-footnoterange.sty</b>	846
186	<b>l warp-footnpag.sty</b>	846
187	<b>l warp-foreign.sty</b>	847
188	<b>l warp-forest.sty</b>	847
189	<b>l warp-fouridx.sty</b>	848
190	<b>l warp-fourier.sty</b>	848
191	<b>l warp-framed.sty</b>	850
192	<b>l warp-froufrou.sty</b>	852

193	<b>l warp-ftcap.sty</b>	853
194	<b>l warp-ftnright.sty</b>	853
195	<b>l warp-fullminipage.sty</b>	853
196	<b>l warp-fullpage.sty</b>	853
197	<b>l warp-fullwidth.sty</b>	854
198	<b>l warp-fvextra.sty</b>	854
199	<b>l warp-fwlw.sty</b>	857
200	<b>l warp-gensymb.sty</b>	858
201	<b>l warp-gentombow.sty</b>	858
202	<b>l warp-geometry.sty</b>	858
203	<b>l warp-ghsystem.sty</b>	859
204	<b>l warp-gindex.sty</b>	860
205	<b>l warp-gloss.sty</b>	861
206	<b>l warp-glossaries.sty</b>	861
207	<b>l warp-gmeometric.sty</b>	863
208	<b>l warp-graphics.sty</b>	864
316	<b>graphics</b>	864
316.1	Graphics extensions	864
316.2	Length conversions and graphics options	865
316.3	Printing HTML styles	868
316.4	\includegraphics	868
316.5	Boxes	874
209	<b>l warp-graphicx.sty</b>	877
210	<b>l warp-grffile.sty</b>	877
211	<b>l warp-grid.sty</b>	877
212	<b>l warp-grid-system.sty</b>	878
213	<b>l warp-gridset.sty</b>	878

214	<b>l warp-hang.sty</b>	878
215	<b>l warp-hanging.sty</b>	880
216	<b>l warp-hepunits.sty</b>	881
217	<b>l warp-hhline.sty</b>	882
218	<b>l warp-hhtensor.sty</b>	883
219	<b>l warp-hypbmsec.sty</b>	883
220	<b>l warp-hypcap.sty</b>	884
221	<b>l warp-hypdestopt.sty</b>	884
222	<b>l warp-hypernat.sty</b>	884
223	<b>l warp-hyperref.sty</b>	884
224	<b>l warp-hyperxmp.sty</b>	894
225	<b>l warp-hyphenat.sty</b>	895
226	<b>l warp-idxlayout.sty</b>	896
227	<b>l warp-ifoddpage.sty</b>	897
228	<b>l warp-imakeidx.sty</b>	897
229	<b>l warp-impnattypo.sty</b>	902
230	<b>l warp-index.sty</b>	902
231	<b>l warp-inputrc.sty</b>	903
232	<b>l warp-intopdf.sty</b>	904
233	<b>l warp-isomath.sty</b>	904
234	<b>l warp-isotope.sty</b>	905
235	<b>l warp-jurabib.sty</b>	906
236	<b>l warp-karnaugh-map.sty</b>	907
237	<b>l warp-keyfloat.sty</b>	910
238	<b>l warp-keystroke.sty</b>	916
239	<b>l warp-kpfonts.sty</b>	918
240	<b>l warp-kpfonts-otf.sty</b>	919

241	<b>l warp-layaureo.sty</b>	921
242	<b>l warp-layout.sty</b>	921
243	<b>l warp-layouts.sty</b>	921
244	<b>l warp-leading.sty</b>	924
245	<b>l warp-leftidx.sty</b>	924
246	<b>l warp-letterspace.sty</b>	924
247	<b>l warp-lettrine.sty</b>	925
248	<b>l warp-libertinust1math.sty</b>	926
249	<b>l warp-linenos.sty</b>	932
250	<b>l warp-lips.sty</b>	934
251	<b>l warp-lipsum.sty</b>	935
252	<b>l warp-listings.sty</b>	935
253	<b>l warp-listliketab.sty</b>	942
254	<b>l warp-lltjext.sty</b>	942
255	<b>l warp-longtable.sty</b>	943
256	<b>l warp-lpic.sty</b>	946
257	<b>l warp-lscape.sty</b>	946
258	<b>l warp-ltablex.sty</b>	946
259	<b>l warp-ltcaption.sty</b>	947
260	<b>l warp-ltxgrid.sty</b>	947
261	<b>l warp-ltxtable.sty</b>	948
262	<b>l warp-lua-check-hyphen.sty</b>	948
263	<b>l warp-lua-visual-debug.sty</b>	948
264	<b>l warp-luacolor.sty</b>	948
265	<b>l warp-luamplib.sty</b>	949
266	<b>l warp-luatexko.sty</b>	949
267	<b>l warp-luatodonotes.sty</b>	951

268	<b>l warp-luavlna.sty</b>	953
269	<b>l warp-lyluatex.sty</b>	953
270	<b>l warp-magaz.sty</b>	956
271	<b>l warp-makeidx.sty</b>	956
272	<b>l warp-manyfoot.sty</b>	956
273	<b>l warp-marginal.sty</b>	958
274	<b>l warp-marginfit.sty</b>	959
275	<b>l warp-marginfix.sty</b>	959
276	<b>l warp-marginnote.sty</b>	959
277	<b>l warp-marvosym.sty</b>	960
278	<b>l warp-mathalpha.sty</b>	961
279	<b>l warp-mathastext.sty</b>	961
280	<b>l warp-mathcomp.sty</b>	962
281	<b>l warp-mathdesign.sty</b>	963
282	<b>l warp-mathdots.sty</b>	964
283	<b>l warp-mathfixs.sty</b>	965
284	<b>l warp-mathpazo.sty</b>	965
285	<b>l warp-mathptmx.sty</b>	966
286	<b>l warp-mathspec.sty</b>	966
287	<b>l warp-mathtools.sty</b>	968
288	<b>l warp-mattens.sty</b>	974
289	<b>l warp-maybemath.sty</b>	976
290	<b>l warp-mcaption.sty</b>	977
291	<b>l warp-mdframed.sty</b>	977
399	<b>mdframed</b>	977
399.1	Limitations	977
399.2	Package loading	978

399.3	Patches . . . . .	978
399.4	Initial setup . . . . .	979
399.5	Color and length HTML conversion . . . . .	979
399.6	Environment encapsulation . . . . .	979
399.7	Mdframed environment . . . . .	981
399.8	Titles and subtitles . . . . .	982
399.9	New environments . . . . .	984
<b>292</b>	<b>l warp-mdwmath.sty</b> . . . . .	<b>986</b>
<b>293</b>	<b>l warp-media9.sty</b> . . . . .	<b>987</b>
<b>294</b>	<b>l warp-memhfixc.sty</b> . . . . .	<b>989</b>
<b>295</b>	<b>l warp-menukeys.sty</b> . . . . .	<b>989</b>
<b>296</b>	<b>l warp-metalogo.sty</b> . . . . .	<b>990</b>
<b>297</b>	<b>l warp-metalogox.sty</b> . . . . .	<b>990</b>
<b>298</b>	<b>l warp-mhchem.sty</b> . . . . .	<b>991</b>
<b>299</b>	<b>l warp-microtype.sty</b> . . . . .	<b>994</b>
<b>300</b>	<b>l warp-midfloat.sty</b> . . . . .	<b>994</b>
<b>301</b>	<b>l warp-midpage.sty</b> . . . . .	<b>995</b>
<b>302</b>	<b>l warp-minibox.sty</b> . . . . .	<b>995</b>
<b>303</b>	<b>l warp-minitoc.sty</b> . . . . .	<b>996</b>
<b>304</b>	<b>l warp-minted.sty</b> . . . . .	<b>996</b>
<b>305</b>	<b>l warp-mismath.sty</b> . . . . .	<b>997</b>
<b>306</b>	<b>l warp-mleftright.sty</b> . . . . .	<b>1001</b>
<b>307</b>	<b>l warp-morefloats.sty</b> . . . . .	<b>1001</b>
<b>308</b>	<b>l warp-moreverb.sty</b> . . . . .	<b>1001</b>
<b>309</b>	<b>l warp-movie15.sty</b> . . . . .	<b>1003</b>
<b>310</b>	<b>l warp-mparhack.sty</b> . . . . .	<b>1004</b>
<b>311</b>	<b>l warp-multibib.sty</b> . . . . .	<b>1004</b>

312	<b>l warp-monicap.sty</b>	1005
313	<b>l warp-multicol.sty</b>	1005
314	<b>l warp-multicolrule.sty</b>	1006
315	<b>l warp-mymultimedia.sty</b>	1006
316	<b>l warp-multiobjective.sty</b>	1007
317	<b>l warp-multirow.sty</b>	1008
318	<b>l warp-muttoc.sty</b>	1012
319	<b>l warp-musicography.sty</b>	1012
320	<b>l warp-nameauth.sty</b>	1015
321	<b>l warp-nameref.sty</b>	1017
322	<b>l warp-natbib.sty</b>	1017
323	<b>l warp-nccfancyhdr.sty</b>	1018
324	<b>l warp-nccfoots.sty</b>	1019
325	<b>l warp-nccmath.sty</b>	1019
326	<b>l warp-needspace.sty</b>	1021
327	<b>l warp-newpxmath.sty</b>	1021
328	<b>l warp-newtxmath.sty</b>	1022
329	<b>l warp-newtxsf.sty</b>	1023
330	<b>l warp-nextpage.sty</b>	1024
331	<b>l warp-nfssext-cfr.sty</b>	1024
332	<b>l warp-nicefrac.sty</b>	1031
333	<b>l warp-niceframe.sty</b>	1031
334	<b>l warp-nicematrix.sty</b>	1032
335	<b>l warp-noitcru.sty</b>	1034
336	<b>l warp-nolbreaks.sty</b>	1035
337	<b>l warp-nomencl.sty</b>	1035
338	<b>l warp-nonfloat.sty</b>	1036

339	<b>l warp-nonumonpart.sty</b>	1036
340	<b>l warp-nopageno.sty</b>	1036
341	<b>l warp-notes.sty</b>	1036
342	<b>l warp-notespages.sty</b>	1037
343	<b>l warp-nowidow.sty</b>	1037
344	<b>l warp-ntheorem.sty</b>	1038
452	<b>ntheorem</b>	1038
452.1	<b>Limitations</b>	1038
452.2	<b>Options</b>	1038
452.3	<b>Remembering the theorem style</b>	1039
452.4	<b>HTML cross-referencing</b>	1042
452.5	<b>\newtheoremstyle</b>	1043
452.6	<b>Standard styles</b>	1043
452.7	<b>Additional objects</b>	1044
452.8	<b>Renewed standard configuration</b>	1045
452.9	<b>amsthm option</b>	1046
452.10	<b>Ending a theorem.</b>	1048
452.11	<b>\NoEndMark</b>	1049
452.12	<b>List-of</b>	1049
452.13	<b>Symbols</b>	1049
452.14	<b>Cross-referencing</b>	1050
345	<b>l warp-octave.sty</b>	1050
346	<b>l warp-orcidlink.sty</b>	1051
347	<b>l warp-overpic.sty</b>	1052
348	<b>l warp-pagegrid.sty</b>	1052
349	<b>l warp-pagenote.sty</b>	1053
350	<b>l warp-pagesel.sty</b>	1053
351	<b>l warp-paralist.sty</b>	1053

352	<b>l warp-parallel.sty</b>	1054
353	<b>l warp-parcolumns.sty</b>	1056
354	<b>l warp-parnotes.sty</b>	1058
355	<b>l warp-parskip.sty</b>	1059
356	<b>l warp-pbalance.sty</b>	1059
357	<b>l warp-pbox.sty</b>	1060
358	<b>l warp-pdfcol.sty</b>	1060
359	<b>l warp-pdfcolfoot.sty</b>	1061
360	<b>l warp-pdfcolmk.sty</b>	1061
361	<b>l warp-pdfcolparallel.sty</b>	1061
362	<b>l warp-pdfcolparcolumns.sty</b>	1062
363	<b>l warp-pdfcomment.sty</b>	1062
364	<b>l warp-pdfcrypt.sty</b>	1063
365	<b>l warp-pdflandscape.sty</b>	1063
366	<b>l warp-pdfmarginpar.sty</b>	1063
367	<b>l warp-pdfpages.sty</b>	1064
368	<b>l warp-pdfprivacy.sty</b>	1066
369	<b>l warp-pdfrender.sty</b>	1066
370	<b>l warp-pdfsync.sty</b>	1067
371	<b>l warp-pdftricks.sty</b>	1067
372	<b>l warp-pdftx.sty</b>	1068
373	<b>l warp-perpage.sty</b>	1068
374	<b>l warp-pfnote.sty</b>	1069
375	<b>l warp-phfkit.sty</b>	1069
376	<b>l warp-physics.sty</b>	1070
377	<b>l warp-physunits.sty</b>	1070
378	<b>l warp-picinpar.sty</b>	1072

379	<b>l warp-pifont.sty</b>	1074
380	<b>l warp-pinlabel.sty</b>	1074
381	<b>l warp-placeins.sty</b>	1075
382	<b>l warp-plarydshln.sty</b>	1075
383	<b>l warp-plext.sty</b>	1075
384	<b>l warp-plextrydshln.sty</b>	1076
385	<b>l warp-plextcolortbl.sty</b>	1076
386	<b>l warp-plimsoll.sty</b>	1077
387	<b>l warp-prelim2e.sty</b>	1077
388	<b>l warp-prettyref.sty</b>	1077
389	<b>l warp-preview.sty</b>	1078
390	<b>l warp-psfrag.sty</b>	1078
391	<b>l warp-psfragx.sty</b>	1079
392	<b>l warp-pst-eps.sty</b>	1079
393	<b>l warp-pstool.sty</b>	1079
394	<b>l warp-pstricks.sty</b>	1080
395	<b>l warp-pxatbegshi.sty</b>	1081
396	<b>l warp-pxeveryshi.sty</b>	1081
397	<b>l warp-pxfonts.sty</b>	1081
398	<b>l warp-pxftnright.sty</b>	1082
399	<b>l warp-pxjahyper.sty</b>	1082
400	<b>l warp-quotchap.sty</b>	1082
401	<b>l warp-quoting.sty</b>	1083
402	<b>l warp-ragged2e.sty</b>	1084
403	<b>l warp-realscripts.sty</b>	1084
404	<b>l warp-refcheck.sty</b>	1088
405	<b>l warp-register.sty</b>	1088

406	<b>l warp-relsize.sty</b>	1089
407	<b>l warp-repeatindex.sty</b>	1090
408	<b>l warp-repltext.sty</b>	1091
409	<b>l warp-resizegather.sty</b>	1091
410	<b>l warp-returntogrid.sty</b>	1092
411	<b>l warp-rlepsf.sty</b>	1092
412	<b>l warp-rmathbr.sty</b>	1092
413	<b>l warp-rmpage.sty</b>	1093
414	<b>l warp-romanbar.sty</b>	1093
415	<b>l warp-romanbarpage number.sty</b>	1093
416	<b>l warp-rotating.sty</b>	1093
417	<b>l warp-rotfloat.sty</b>	1094
418	<b>l warp-rviewport.sty</b>	1095
419	<b>l warp-savetrees.sty</b>	1095
420	<b>l warp-scalefnt.sty</b>	1096
421	<b>l warp-scalerel.sty</b>	1096
422	<b>l warp-schemata.sty</b>	1097
423	<b>l warp-scrextend.sty</b>	1097
424	<b>l warp-scrhack.sty</b>	1101
425	<b>l warp-scrlayer.sty</b>	1101
426	<b>l warp-scrlayer-notecolumn.sty</b>	1103
427	<b>l warp-scrlayer-scrpage.sty</b>	1103
428	<b>l warp-scrpage2.sty</b>	1104
429	<b>l warp-section.sty</b>	1105
430	<b>l warp-sectionbreak.sty</b>	1106
431	<b>l warp-sectsty.sty</b>	1107
432	<b>l warp-selectp.sty</b>	1107

433	<b>l warp-semantic-markup.sty</b>	1108
434	<b>l warp-seqsplit.sty</b>	1109
435	<b>l warp-setspace.sty</b>	1110
436	<b>l warp-shadethm.sty</b>	1111
437	<b>l warp-shadow.sty</b>	1111
438	<b>l warp-shapepar.sty</b>	1111
439	<b>l warp-showidx.sty</b>	1112
440	<b>l warp-showkeys.sty</b>	1112
441	<b>l warp-showtags.sty</b>	1112
442	<b>l warp-shuffle.sty</b>	1113
443	<b>l warp-sidecap.sty</b>	1114
444	<b>l warp-sidenotes.sty</b>	1114
445	<b>l warp-simplebnf.sty</b>	1116
446	<b>l warp-SIunits.sty</b>	1117
447	<b>l warp-siunitx.sty</b>	1126
448	<b>l warp-siunitx-v2.sty</b>	1127
449	<b>l warp-skmath.sty</b>	1141
450	<b>l warp-slantsc.sty</b>	1147
451	<b>l warp-slashed.sty</b>	1147
452	<b>l warp-soul.sty</b>	1147
453	<b>l warp-soulpos.sty</b>	1149
454	<b>l warp-soulutf8.sty</b>	1150
455	<b>l warp-splitbib.sty</b>	1150
456	<b>l warp-splitidx.sty</b>	1151
457	<b>l warp-srcltx.sty</b>	1152
458	<b>l warp-srctex.sty</b>	1153
459	<b>l warp-stabular.sty</b>	1153

460	<b>l warp-stackengine.sty</b>	1154
461	<b>l warp-stackrel.sty</b>	1155
462	<b>l warp-statex2.sty</b>	1156
463	<b>l warp-statistics.sty</b>	1160
464	<b>l warp-statmath.sty</b>	1166
465	<b>l warp-steinmetz.sty</b>	1167
466	<b>l warp-stfloats.sty</b>	1168
467	<b>l warp-struktex.sty</b>	1168
468	<b>l warp-subcaption.sty</b>	1169
469	<b>l warp-subfig.sty</b>	1169
470	<b>l warp-subfigure.sty</b>	1174
471	<b>l warp-subsupscripts.sty</b>	1175
472	<b>l warp-supertabular.sty</b>	1176
473	<b>l warp-svg.sty</b>	1177
474	<b>l warp-swfigure.sty</b>	1178
475	<b>l warp-syntonly.sty</b>	1178
476	<b>l warp-tabfigures.sty</b>	1179
477	<b>l warp-tablefootnote.sty</b>	1179
478	<b>l warp-tables.sty</b>	1179
479	<b>l warp-tabularx.sty</b>	1180
480	<b>l warp-tabulary.sty</b>	1180
481	<b>l warp-tagpdf.sty</b>	1181
482	<b>l warp-tascmac.sty</b>	1183
483	<b>l warp-tcolorbox.sty</b>	1184
484	<b>l warp-tensor.sty</b>	1190
485	<b>l warp-termcal.sty</b>	1192
486	<b>l warp-textarea.sty</b>	1192

487	<b>l warp-textcomp.sty</b>	1193
488	<b>l warp-textfit.sty</b>	1196
489	<b>l warp-textpos.sty</b>	1197
490	<b>l warp-theorem.sty</b>	1197
491	<b>l warp-thinsp.sty</b>	1201
492	<b>l warp-thm-listof.sty</b>	1202
493	<b>l warp-thm-restate.sty</b>	1202
494	<b>l warp-thmbox.sty</b>	1203
495	<b>l warp-thmtools.sty</b>	1204
496	<b>l warp-threadcol.sty</b>	1204
497	<b>l warp-threeparttable.sty</b>	1204
498	<b>l warp-threeparttablex.sty</b>	1205
499	<b>l warp-thumb.sty</b>	1206
500	<b>l warp-thumbs.sty</b>	1207
501	<b>l warp-tikz.sty</b>	1207
502	<b>l warp-tikz-imagelabels.sty</b>	1208
503	<b>l warp-titleps.sty</b>	1209
504	<b>l warp-titleref.sty</b>	1212
505	<b>l warp-titlesec.sty</b>	1212
506	<b>l warp-titletoc.sty</b>	1214
507	<b>l warp-titling.sty</b>	1216
508	<b>l warp-tocbasic.sty</b>	1220
509	<b>l warp-toctbibind.sty</b>	1221
510	<b>l warp-toctdata.sty</b>	1223
511	<b>l warp-tocenter.sty</b>	1224
512	<b>l warp-tocloft.sty</b>	1224
513	<b>l warp-toctstyle.sty</b>	1230

514	<b>l warp-todo.sty</b>	1231
515	<b>l warp-todonotes.sty</b>	1232
516	<b>l warp-topcapt.sty</b>	1233
517	<b>l warp-tram.sty</b>	1234
518	<b>l warp-transparent.sty</b>	1234
519	<b>l warp-trimclip.sty</b>	1235
520	<b>l warp-trivfloat.sty</b>	1235
521	<b>l warp-truncate.sty</b>	1236
522	<b>l warp-turnthepage.sty</b>	1236
523	<b>l warp-twoup.sty</b>	1237
524	<b>l warp-txfonts.sty</b>	1237
525	<b>l warp-txgreeks.sty</b>	1237
526	<b>l warp-typearea.sty</b>	1238
527	<b>l warp-typicons.sty</b>	1239
528	<b>l warp-ulem.sty</b>	1239
529	<b>l warp-umoline.sty</b>	1241
530	<b>l warp-underscore.sty</b>	1242
531	<b>l warp-unicode-math.sty</b>	1242
532	<b>l warp-units.sty</b>	1246
533	<b>l warp-unitsdef.sty</b>	1247
534	<b>l warp-upgreek.sty</b>	1248
535	<b>l warp-upref.sty</b>	1248
536	<b>l warp-url.sty</b>	1249
537	<b>l warp-ushort.sty</b>	1249
538	<b>l warp-uspace.sty</b>	1249
539	<b>l warp-varioref.sty</b>	1250
540	<b>l warp-verse.sty</b>	1250

541	<b>l warp-versonotes.sty</b>	1252
542	<b>l warp-verbars.sty</b>	1252
543	<b>l warp-vmargin.sty</b>	1253
544	<b>l warp-vowel.sty</b>	1253
545	<b>l warp-vpe.sty</b>	1254
546	<b>l warp-vwcol.sty</b>	1254
547	<b>l warp-wallpaper.sty</b>	1256
548	<b>l warp-watermark.sty</b>	1257
549	<b>l warp-widetable.sty</b>	1257
550	<b>l warp-widows-and-orphans.sty</b>	1257
551	<b>l warp-witharrows.sty</b>	1258
552	<b>l warp-wrapfig.sty</b>	1259
553	<b>l warp-xbmks.sty</b>	1261
554	<b>l warp-xcolor.sty</b>	1261
662	<b>xcolor</b>	1261
662.1	<b>Limitations</b>	1261
662.2	<b>xcolor definitions: location and timing</b>	1262
662.3	<b>Package loading</b>	1264
662.4	<b>Remembering and restoring original definitions</b>	1264
662.5	<b>\normalcolor</b>	1264
662.6	<b>HTML color style</b>	1264
662.7	<b>HTML border</b>	1265
662.8	<b>High-level macros</b>	1266
662.9	<b>Row colors</b>	1270
555	<b>l warp-xexchangebar.sty</b>	1272
556	<b>l warp-xellipsis.sty</b>	1272
557	<b>l warp-xetexko.sty</b>	1273

558	<b>l warp-xevlna.sty</b>	1273
559	<b>l warp-xfakebold.sty</b>	1273
560	<b>l warp-xfrac.sty</b>	1274
561	<b>l warp-xltabular.sty</b>	1276
562	<b>l warp-xltextra.sty</b>	1277
563	<b>l warp-xmpincl.sty</b>	1277
564	<b>l warp-xpiano.sty</b>	1278
565	<b>l warp-xpinyin.sty</b>	1278
566	<b>l warp-xr.sty</b>	1280
567	<b>l warp-xr-hyper.sty</b>	1280
568	<b>l warp-xtab.sty</b>	1280
569	<b>l warp-xunicode.sty</b>	1282
570	<b>l warp-xurl.sty</b>	1283
571	<b>l warp-xy.sty</b>	1283
572	<b>l warp-zhlineskip.sty</b>	1285
573	<b>l warp-zwpagelayout.sty</b>	1285
574	<b>l warp-patch-komascript.sty</b>	1286
575	<b>l warp-patch-memoir.sty</b>	1288
683	<b>patch-memoir</b>	1288
683.1	<b>Packages</b>	1290
683.2	<b>Label handling</b>	1291
683.3	<b>Page layout</b>	1292
683.4	<b>Text and fonts</b>	1294
683.5	<b>Titles</b>	1295
683.6	<b>Abstracts</b>	1295
683.7	<b>Document divisions</b>	1295
683.8	<b>Pagination and headers</b>	1298

683.9	Paragraphs and lists . . . . .	1299
683.10	Contents lists . . . . .	1300
683.11	FLOATS AND CAPTIONS . . . . .	1304
683.12	Footnotes and page notes . . . . .	1308
683.13	Decorative text . . . . .	1310
683.14	Poetry . . . . .	1310
683.15	BOXES, VERBATIMS AND FILES . . . . .	1310
683.16	CROSS REFERENCING . . . . .	1311
683.17	BACK MATTER . . . . .	1312
683.18	MISCELLANEOUS . . . . .	1313
683.19	CCAPTION EMULATION . . . . .	1314
683.20	FINAL PATCHWORK . . . . .	1317
576	<b>l warp-common-multimedia.sty</b> . . . . .	<b>1317</b>
577	<b>l warp-common-mathjax-letters.sty</b> . . . . .	<b>1322</b>
578	<b>l warp-common-mathjax-newpxmath.sty</b> . . . . .	<b>1329</b>
579	<b>l warp-common-mathjax-nonunicode.sty</b> . . . . .	<b>1335</b>
580	<b>l warp-common-mathjax-overlaysymbols.sty</b> . . . . .	<b>1338</b>
	<b>Change History</b> . . . . .	<b>1339</b>
689	<b>Chg Hist</b> . . . . .	<b>1339</b>
	<b>Index of Objects</b> . . . . .	<b>1379</b>
	<b>General Index</b> . . . . .	<b>1403</b>
	<b>Troubleshooting Index</b> . . . . .	<b>1408</b>
	<b>Index of Indexes</b> . . . . .	<b>1415</b>

## List of Figures

1	tutorial.tex listing	87
---	----------------------	----

## List of Tables

1	Typesetting conventions	68
2	L <sup>A</sup> T <sub>E</sub> X lwarp package — Supported features	69
3	Required software programs	80
4	Configuration files created by print version	89
5	Localization settings	102
6	Accessibiltiy settings	104
7	Lwarp package options	108
8	HTML settings	114
9	\includegraphics and file names	165
10	Literal character macros	184
11	Section HTML headings for word-processor conversion	192
12	Section depths and HTML headings	208
13	Tabular baseline	473
14	Tabular HTML column conversions	474
15	Cross-referencing data structures	517
16	Float data structures	529
17	CSS related to the sidetoc	541
18	amsthm package—css styling of theorems and proofs	674
19	Ntheorem package—css styling of theorems and proofs	1038
20	Theorem package—css styling of theorems and proofs	1198

## 1 Updates

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

For a detailed list of the most recent changes, see the end of the Change History on page 1379.

### v0.900: Package updates.

- |                  |   |
|------------------|---|
| core<br>packages | <ul style="list-style-type: none"><li>• Fix for detecting \usepackage{l warp}.</li><li>• amsmath: Fixed alignat with MATHJAX.</li><li>• changes: Updated to v4.2.1.</li><li>• froufrou: Updated to v1.4.0.</li><li>• lipsum: Updated to v2.3.</li></ul> |
|------------------|---|

### v0.899: Minor updates.

- |                  |  |
|------------------|--|
| core<br>packages | <ul style="list-style-type: none"><li>• l warpmk: Warns if \usepackage{l warp} is not detected.</li><li>• graphics: Added support for keepaspectratio.</li><li>• keyfloat: Fix: lw with h.</li><li>• multicol: Improved css.</li></ul> |
|------------------|--|

### v0.898: Minor updates.

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

### v0.897: siunitx rollback.

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

### v0.896: Back references, accessibility.

- ⚠
- Due to changes in cross referencing, execute **l warpmk clean** before recompiling.
  - Increased sectioning nesting stack depth. Error if overflow stack.
  - Fixed footnotes at the end of the document, or inside a description label.
  - Added an error if using braces inside \usepackage options.

- MATHJAX**
  - Fixed footnotes in bracket display math with MATHJAX.
- theorems**
  - L<sup>A</sup>T<sub>E</sub>X theorems, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.
- accessibility**
  - Added HTML <main> element to each page.
  - Added ARIA math role to SVG math images, and note role to margin notes, footnotes, etc.
- packages**
  - Improved 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.
  - `threeparttablex`: 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`, `classicthesis`, `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 XeL<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X.
- MATHJAX**
  - Added `\ifblank` and `\ifstreq` to MATHJAX emulation.
- packages**
  - `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 `teximage`.
  - `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.
  - Accept and ignore a star for `\hspace`.
  - Ignores `\arabic`, `\number`, `\noalign`.
- packages
  - 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
  - Added MATHJAX emulation for `\mathnormal`.
- packages
  - Fixed `pstricks pspicture*`.
  - Fixed `tikz` font macros.
  - `braket`: Now uses the MATHJAX extension.
  - Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectp`, `seqsplit`, `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
  - `fourier`, `libertinust1math`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added MATHJAX `\left/\right` support for additional delimiters.
- packages
  - `textpos`: Updated to v1.10.
  - `xcolor`: Fixed optional args for `\fcbox` and related.
  - Added `fverextra`, `minted`.

**v0.891:** MATHJAX additions and improvements.

- core
  - Now displays inline `\verb` text as `\texttt`.
  - Fixed `alltt` and `verbats` with LATEX lists.
  - Now generates an error if nested each of `warpHTML`, `warpprint`, `warpMathJax` inside itself.
- MATHJAX
  - Added MATHJAX `textmacros` extension, allowing formatting inside `\text`.
- packages
  - `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**, **kfonts**, **kfonts-otf**, **libertinust1math**, **scalerel**, **txgreeks**.

**v0.89:** Additional MATHJAX support.

<b>core</b>	<ul style="list-style-type: none"> <li>• Adapted to upcoming LATEX kernel changes.</li> <li>• Allows load of <b>amsmath</b> before <b>l warp</b>.</li> </ul>
<b>l warpmk</b>	<ul style="list-style-type: none"> <li>• Also removes <b>*.bbl</b> when cleaning aux files.</li> </ul>
<b>MATHJAX</b>	<ul style="list-style-type: none"> <li>• MATHJAX: Neutralized <b>\protect</b>, <b>\mathcode</b> and related, ligatures. Fixed nested environments.</li> </ul>
<b>packages</b>	<ul style="list-style-type: none"> <li>• <b>caption:</b> Updated for v3.5, fix for label sep.</li> <li>• <b>thmtools:</b> Updated for v0.72. Fixed <b>swapnumber</b>, <b>margin</b>.</li> <li>• Improved MATHJAX for <b>centernot</b>, <b>mathtools</b>, <b>mismath</b>, <b>Slunits</b>, <b>siunitx</b>, <b>statmath</b>.</li> <li>• Added MATHJAX emulation for accents, <b>hepunits</b>, <b>hhtensor</b>, <b>mathalpha</b>, <b>mathdesign</b>, <b>mathpazo</b>, <b>mathptmx</b>, <b>mleftright</b>, <b>newpxmath</b>, <b>newtxmath</b>, <b>newtxsf</b>, <b>pxfonts</b>, <b>shuffle</b>, <b>txfonts</b>, <b>upgreek</b>, <b>ushort</b>.</li> <li>• Verified to work as-is: <b>authoraftertitle</b>.</li> </ul>

**v0.88:** Indexing, boxing, theorems.

<b>core</b>	<ul style="list-style-type: none"> <li>• Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.</li> </ul>
<b>l warpmk</b>	<ul style="list-style-type: none"> <li>• Fixed: <b>\ref*</b>, and also added MATHJAX emulation.</li> <li>• If starting a new paragraph, <b>\hrulefill</b> creates a <b>&lt;div&gt;</b> with a thin horizontal line across the page. Use instead of <b>\hrule</b>.</li> <li>• Fixed: Use <b>\chaptername</b> where appropriate.</li> <li>• Fixed: Inline links causing extraneous paragraphs.</li> <li>• Added <b>l warpmk -v</b> to print the version number.</li> </ul>
<b>indexing</b>	<ul style="list-style-type: none"> <li>• Added the <b>IndexRef</b> option to control the display of index entries. See section <a href="#">7.5</a>.</li> <li>• Added <b>\IndexPageSeparator</b> and <b>\IndexRangeSeparator</b> for custom index styles.</li> <li>• Added support for <b>gindex</b>, <b>xindex</b>.</li> <li>• Verified to work as-is with <b>varindex</b>.</li> </ul>
<b>packages</b>	<ul style="list-style-type: none"> <li>• <b>cleveref</b>, <b>varioref</b>: Fix for starred macros.</li> <li>• <b>varioref</b>: Removed page-related text from HTML output.</li> <li>• <b>xfakebold</b>: Updated to v0.08, using <b>pdfrender</b>.</li> <li>• <b>caption</b>, <b>scrextend</b>: Fixed <b>\caption*</b>.</li> <li>• Added <b>fbox</b>, <b>shadethm</b>, <b>tcolorbox</b>, <b>termcal</b>, <b>thmbox</b>, <b>thmtools</b>.</li> </ul>

**v0.87:** MATHJAX, bibliography packages.**core**

- Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
- Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.5.
- `physics`: Now supports the MATHJAX v3 extension.
- `mathtools`: Improved `\underbrakcet`, `\overbracket` for MATHJAX.
- `nccmath`: Improved `\underrel` for MATHJAX.
- `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
- `cancel`: Now supports the MATHJAX v3 extension.
- `embrac`: Neutralized kerning for improved HTML conversion.
- Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
- Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

**MATHJAX** Removed\DeclareIfstar  
packages**v0.86:** MATHJAX major updates.**core**

- Fixed: Filename if named files with \*, parens, period in section name.
- Fixed: Labels in `eqnarray`, `lateximage`.
- MATHJAX**
- Updated to MATHJAX v3. New repository.
- Fixed forward references for MATHJAX.
- Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.5.
- Added `\DeclareIfstar` to define starred TeX macros in MATHJAX. See section 8.7.5.
- Generates an error if `\MathJaxFilename` file does not exist.

**packages**

- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.

**v0.85:** fontspec**packages** acro formats

- `fontspec`: Fixed core font change macros for world languages.
- `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 <span>s. See section 7.8.
  - Added \LinkPrevious, \LinkNext page links. See section 7.6.
  - Added \FirstPageBottom. Home page no longer shares \PageBottom. See section 7.6.
- ⚠ home page footer changed
  - core
    - 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 LATEX kernel.
    - Fixed \itshape, etc. Adapted to LATEX fontaxes integration.
    - Fixed \@fnsymbol.
    - Warns about section names with dollar-delimited math.
    - Warns about a <span> containing a float, caption, section, mdframed, or other <div> object.
    - Only warn about XE~~T~~E<sup>X</sup> 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, axessibilty, 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 lateximage.
  - chemmacros: Updated to v5.10.
  - Added fewerfloatpages, ghsystem, hhline, mismath, nccmath.

**v0.79:** MATHJAX, nested tabular.

- MATHJAX**
  - Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
  - Warn if using certain packages not supported by MATHJAX.
- core**
  - tabular: Now may be nested.
  - minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
  - Uses new iftex.
- packages**
  - graphicx: Fix: Negative angles.
  - caption: Fix: \captionlistentry with longtable.
  - multirow: Fix: Centered vertical alignment.
  - siunitx: Fix: \square, \cubed.
  - booktabs: Fix: memoir with lateximage.
  - babel and polyglossia: Added troubleshooting warnings.
  - fontawesome, fontawesome5: Supports text color and size.
  - transparent: Fix: lateximages.
  - epigraph: Updated to v1.5e.
  - xurl: Updated to v0.08.
  - subcaption: Fixed with memoir.
  - floatrow: Fix: \linewidth. No longer require float, graphics.
  - floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
  - Added widetable, witharrows, steinmetz.
  - Added awesomebox, catoptions.
  - Added svg, supports svg-extract.
  - Added parcolumns, pdfcolparcolumns,
  - Added parallel, pdfcolparallel.
  - Added pdfcol, pdfcolfoot, pdfcolmk.

**v0.78:** Fixes for support files, alt tags, hyperlinks, and the 2019/10 L<sup>A</sup>T<sub>E</sub>X release.

- docs**
  - Docs: Improved documentation regarding package options. See section 8.1.
  - Fix to overwrite existing support files using new filecontents environment.
- packages**
  - breqn: Previously broken by the 2019/10 L<sup>A</sup>T<sub>E</sub>X update, but now working again.
  - graphics: Fix for \includegraphics alt tags.
  - babel-french: Fix for hyperlinks.
  - media9, movie15, multimedia: Fix for the 2019/10 L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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"> <li>• <code>xr</code>: Updated to v5.05.</li> <li>• <code>xr-hyper</code>: Updated to v6.1.</li> <li>• Verified works as-is with <code>xcite</code>.</li> <li>• <code>acro</code>: Updated to v2.10.</li> </ul>
<span style="color: red;">⚠️</span> <code>broken</code>	• Currently broken in print mode by the 2019/10 L <sup>A</sup> T <sub>E</sub> 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"> <li>• <code>\minipage</code>: Fix for <code>\linewidth</code>.</li> <li>• <code>keyfloat</code>: Improved color control.</li> <li>• <code>wrapfig</code>: Fix for <code>\linewidth</code>.</li> </ul> |
|-----------------------|--|

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

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

⚠️ `HTML alt text changed names`

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

- |                       |   |
|-----------------------|---|
| <code>svg math</code> | <ul style="list-style-type: none"> <li>• Added <code>\ImageAltText</code> for the default HTML alt text for an image. See section 7.6.</li> <li>• 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.</li> </ul> |
| <code>misc</code>     | <ul style="list-style-type: none"> <li>• Adjusted <code>\LateximageFontSizeScale</code> default from .75 to 1.</li> <li>• Fix: Font control for SVG math.</li> <li>• Fix: Ignores negative <code>\hspace</code>.</li> <li>• Warning if <code>SideTOCDepth &lt; FileDepth</code>.</li> </ul>   |
| <code>lwarpmk</code>  | • <code>lwarpmk: lwarpmk clean</code> removes additional files.   |

- *lwarpmk*: **lwarpmk epstopdf** and **lwarpmk 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 `<span>`.
  - `\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 ⇒ **lwarpmk cleanimages**

and

Enter ⇒ **lwarpmk 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 `lwarf`.
- `\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 `<span>`.
- **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 406.

- **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 `\minipagewidth`.
- **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.

- lwarpmk*
  - *lwarpmk*: Improved error handling for image generation if compile was incomplete.
  - *tabular*: Fix for `\warpprintonly`.
- 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 *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.

*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-}
]{l warp}
```

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 l warp.
- △ Possible filename changes**
- WINDOWS**
- floats**
  - Fix for `l warpmk cleanimages` with WINDOWS.
  - Fixes for floats in the home page.
- lists, table notes**
  - Improved css for definition lists, table notes.
- tabular**
  - `tabular`: Fixes for `\par` in column specifier, minipage inside `tabular`.
- indexing**
  - Indexing: Fix for a long line of multiple entries.
- minipage**
  - `\minipagefullwidth`: Fix for global changes.
  - Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- colors**
  - Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- HTML**
  - Improved HTML output formatting.
- docs**
  - 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.
- packages**
  - `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 l warp 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**
  - Moved the sidetoc to the left side, allowing improved css for margin notes.
  - Improved page layout css.
- image alt tags**
  - `graphicx \includegraphics`: Added the `alt` key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
- duplicate HTML files**
  - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
- fixes**
  - Fix for `tabular*`.

- Fix for tabular border colors.
  - Fixes \quad, \enskip, and figure captions to pass validation.
  - Added ltj\* classes, bounddvi, gentombow, lltjtext, plarydshln, plect, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac.
  - Verified to work with plarray, plutopatch, plectarray, plectdelarray, pxgentombow, plsiunitx, pxpdfpages, pxpgfrcs, pxpgfmark.
  - Added support for fontspec \textsi and \sishape.
  - Added multicol's \docolaction.
  - Added embrac, footnoterange, multicolrule, versonotes.
- v0.64:** Koma-Script, Japanese, Chinese.
- Added utarticle and related classes.
  - Improved ujarticle and related classes.
  - Fix for biblatex with CTEX and other classes.
  - Fixes for scrlayer, scrlayer-scrpage.
  - addlines: Updated to v0.3.
  - Added bsheaders, gmeometric, marginal, rmpage, scrpage2.
- v0.63:** mdframed, Chinese, Japanese, Korean
- Added \linkhomename: A user-definable name for the **Home** link.
  - Documented \sidetocname: A user-definable name for the sidetoc.
  - Fix: \LinkHome for print output.
  - Moved package load checks to the l warp core to reduce the number of l warp-\* files.
  - mdframed: Fix with amsthm, improved titles and font control. Improved rule widths.
  - Fixes for xeCJK.
  - Added xpinyin, zhlineskip.
  - Verified to work with cjkpunct, upzhkinsoku, zhspacing.
  - Verified to work with zxjatype, luateja, luateja-fontspec.
  - Added bxjsarticle and related classes.
  - Added ltjsarticle and related classes.
  - Added pLATEX, upLATEX, ujarticle and related classes.
  - Prevented utarticle and related classes.
  - Prevented bxcjkatype.
  - Verified to work with kotex, xetexko, luateko.

**v0.62:** MiK<sub>T</sub>E<sub>X</sub> docs, HTML title, C<sub>T</sub>E<sub>X</sub>, xeCJK, bitpattern.

docs	<ul style="list-style-type: none"> <li>Docs: Setting a UTF-8 locale. See section 9.8.</li> </ul>
MiK <sub>T</sub> E <sub>X</sub>	<ul style="list-style-type: none"> <li>MiK<sub>T</sub>E<sub>X</sub>: Docs for <i>MiK<sub>T</sub>E<sub>X</sub> Console</i> and <i>miktex-poppler-bin</i>.</li> </ul>
HTML <title>	<ul style="list-style-type: none"> <li>HTML subpage titles: Added \HTMLTitleBeforeSection and \HTMLTitleAfterSection to select whether the HTML &lt;title&gt; displays the website name before or after the section name. See section 7.6.</li> </ul>
fixes	<ul style="list-style-type: none"> <li>Fix for package options handling.</li> <li>Fixes for horizontal white space between fminipage, fcolorminipage, colorboxBlock, fcolorboxBlock.</li> <li>Logos: Fix for X<sub>E</sub>T<sub>E</sub>X logo, improved css, made robust, improved search-engine optimization.</li> <li>\\[ \$1]: Additional HTML &lt;br&gt; if \$1 &gt; 0 pt.</li> <li>Fixes for \includgraphics filename, and with FormatWP.</li> <li>Fix: css for \textup.</li> <li>Fix: Added \slshape.</li> </ul>
Chinese	<ul style="list-style-type: none"> <li>Added ctex package and related classes, xeCJK.</li> <li>Prevented CJK, CJKutf8 unless xeCJK, ctex are used.</li> </ul>
packages	<ul style="list-style-type: none"> <li>chemfig: Docs for new macro \polymerdelim.</li> <li>asymptote: Docs for compilation.</li> <li>chngpage: Fix to load lwarp-changepage.</li> <li>algorithm2e: Fix with non-book classes.</li> <li>register: Updated to v1.8.</li> <li>nicefrac: Improved font control and css, honors nice and ugly.</li> <li>units: Improved font control and css, honors tight and loose.</li> <li>xfrac: Improved css.</li> <li>textcomp and xunicode: Fix conflicts with \textcircled.</li> <li>ulem: Improved compatibility with CJKulem, lateximage.</li> <li>MATHJAX and siunitx: Removed inoperable extension.</li> <li>Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xchangebar.</li> <li>Added musicography, octave, semantic-markup.</li> <li>Added 2in1, flippdf, notespages, rviewport, twoup.</li> </ul>

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

docs	<ul style="list-style-type: none"> <li>Split index into multiple indexes.</li> <li>Improved documentation regarding font selection. See section 7.4.</li> <li>Added documentation regarding debugging options. See section 35.</li> <li>Added documentation regarding HTML entities inside program listings. See section 8.2.1.</li> </ul>
custom compiling	<ul style="list-style-type: none"> <li>Added options to specify the shell commands to execute for <b>lwarpmk print</b> and <b>lwarpmk html</b>, allowing the use of lwarp with perltex, pythontex, etc. If not specified, these are set automatically depending on the L<sub>A</sub>T<sub>E</sub>X engine, --shell-escape, and lwarp options. See section 9.</li> </ul>

⚠ changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

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.
- Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
- Added `copyrightbox`, `pdfprivacy`, `thinsp`, `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 `l warp` 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 `l warp`.

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

⚠ **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.
- `l warpmk`: Added the `-p` option to specify the project name.
- `l warpmk`: Now uses `makeglossaries` for glossary generation, allowing the processing of multiple glossaries at once.
- Added `l warp` option `GlossaryCmd` to specify the shell command used by `l warpmk printglossary` and `l warpmk 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 `l warp` options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `l warpmk printindex`, `l warpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy l warp` options. See section [7.5](#).
- Added `l warp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section [7.5](#).
- Added `l warp` option `makeindexStyle` to tell `l warpmk` to use a custom style instead of `l warp.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.
- 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
    - Added support for MATHJAX equations with \footnote, \footnotemark.
    - Added \StartDefiningMath and \StopDefiningMath for use when defining macros in the preamble which contain \$. See section 8.7.7.
    - Added \inlinemathother and \inlinemathnormal 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 \EndDefiningTabulars to \StopDefiningTabulars.
    - Improved localization for lateximage HTML alt tags. For SVG math images, the alt tag under some conditions will be set to \MathImageAltText, which defaults to math image. For packages, the alt tag is set using the package name followed by \PackageDiagramAltText, which defaults to diagram. Ex:  
 $(-xy-\text{diagram})$
  - dynamic math
  - ⚠ new name
  - latexitimage alt tags
  - misc. fixes
  - packages
- See section 7.6.
- Fix: Improved print/HTML macro selection.
  - Fix: \href text catcodes.
  - Fix: \subref text.
  - Fixes: Colored \rule and \boxframe.
  - float, rotfloat: Adds support for float styles ruled and boxed.
  - float: Fix: Do not create \l@<type> until \listof is used.
  - marginnote: Fix: Long optional argument.
  - ellipsis: Adds \midwordellipsis.
  - breakurl: Fix for text catcodes.
  - Added algorithm2e, register, ltablex, xltabular, xellipsis, trimclip, errata, vowel, xpiano.
  - Prevents glossary.
  - Tested to work as-is with gauss, phonrule, piano, Slunits, tikzcodeblocks.

**v0.56:** Shell escape, tabular packages.

- lwarfmk
  - Added  
 $\lwarfmk \pdftosvg <\text{list-of-PDF-files}>$   
 to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
- tabular
  - Added support for --shell-escape. See section 7.3.
  - 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:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
—	<code>xindyCodepage</code>
—	<code>pdftotextEnc</code>

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<sup>A</sup>T<sub>E</sub>X 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.

***l warpmk***

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

**v0.52:** Improved footnotes, SVG math.

**documentation**

- Improved install instructions regarding `l warp_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<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X 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 `l warp_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 `lateximage`. 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 `lateximage`.
- 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X to provide for every HTML-related possibility, and HTML cannot exactly render every possible L<sup>A</sup>T<sub>E</sub>X 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.

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`lwarp` is a native L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X, `lwarp` has some advantages over other methods of HTML conversion. T<sub>E</sub>X itself is still used, allowing a wider range of T<sub>E</sub>X trickery to be understood. Lua expressions are still available with LuaT<sub>E</sub>X. Entire categories of L<sup>A</sup>T<sub>E</sub>X 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.<sup>1</sup>

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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.

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`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.

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<sup>1</sup>An 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-ridden<sup>2</sup> 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.<sup>3</sup> 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.<sup>4</sup> lwarf maintains LATEX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

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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.

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

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

<sup>3</sup>There 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!

<sup>4</sup>One 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

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

## 2.2 Supported packages and features

Table 2 lists some of the various L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L <sup>A</sup> T <sub>E</sub> X, pdfL <sup>A</sup> T <sub>E</sub> X, XeL <sup>A</sup> T <sub>E</sub> X, LuaL <sup>A</sup> T <sub>E</sub> X, upL <sup>A</sup> T <sub>E</sub> X
Compiling:	<i>latexmk</i> , <i>perltex</i> , <i>pythontex</i> , <i>make</i> , etc.
Classes:	<i>article</i> , <i>book</i> , <i>report</i> , <i>scrartcl</i> , <i>scrbook</i> , <i>scrreprt</i> , <i>memoir</i> , CJK-related as listed below.
Koma-script:	<i>scrextend</i> , <i>scrhack</i> , <i>scrlayer</i> . Others as listed below.
Memoir:	<i>memhfixc</i>
Languages:	<i>babel</i> , <i>cjkpunct</i> , <i>imnattypo</i> , <i>luavlna</i> , <i>polyglossia</i> , <i>xeCJK</i> , <i>xevlna</i> .
Chinese:	C <sub>T</sub> E <sub>X</sub> , <i>cTEX</i> , <i>ctex</i> , <i>upzhkinsoku</i> , <i>xpinyin</i> , <i>zhlineskip</i> , <i>zhspacing</i> .
Japanese:	upL <sup>A</sup> T <sub>E</sub> X, LuaT <sup>A</sup> E <sub>X</sub> -ja, <i>gentombow</i> , <i>lltjext</i> , <i>plarray</i> , <i>plarydshln</i> , <i>plautopatch</i> , <i>plex</i> , <i>plexarray</i> , <i>plexarydshln</i> , <i>plextcolortbl</i> , <i>plextdearray</i> , <i>pxatbegshi</i> , <i>pxeveryshi</i> , <i>pxftnright</i> , <i>pxgentombow</i> , <i>pxjahyper</i> , <i>pxpdfpages</i> , <i>pxpgfrcs</i> , <i>pxpgfmark</i> , <i>tascmac</i> , <i>zxjatype</i> . <i>bxjsarticle</i> and related, <i>ltjsarticle</i> and related, <i>luatexja</i> , <i>luatexja-fontspec</i> , <i>ujarticle</i> and related, <i>utarticle</i> and related.
Korean:	<i>kotex</i> , <i>luatexko</i> , <i>xetexko</i> .

## l warp Supported Functions — continued

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

## l warp Supported Functions — continued

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

## l warp Supported Functions — continued

Category	Status
Additional math:	Math fonts via SVG images, <code>accents</code> <sup>MJ</sup> , <code>amscd</code> <sup>MJ</sup> , <code>amscdx</code> , <code>autobreak</code> <sup>MJ</sup> , <code>autonum</code> , <code>backnaur</code> <sup>MJ</sup> , <code>bm</code> <sup>MJ</sup> , <code>braket</code> <sup>MJ</sup> , <code>breqn</code> <sup>MJ</sup> , <code>bussproofs</code> <sup>MJ</sup> , <code>cases</code> <sup>MJ</sup> , <code>centernot</code> <sup>MJ</sup> , <code>cmbright</code> <sup>MJ</sup> , <code>colonequals</code> <sup>MJ</sup> , <code>decimal</code> <sup>MJ</sup> , <code>delarray</code> , <code>DotArrow</code> <sup>MJ</sup> , <code>dotlessi</code> <sup>MJ</sup> , <code>dotlessj</code> <sup>MJ</sup> , <code>esvect</code> <sup>MJ</sup> , <code>extarrows</code> <sup>MJ</sup> , <code>fixmath</code> <sup>MJ</sup> , <code>fouridx</code> <sup>MJ</sup> , <code>fourier</code> <sup>MJ</sup> , <code>guass</code> , <code>hhtensor</code> <sup>MJ</sup> , <code>icomma</code> <sup>MJ</sup> , <code>isomath</code> <sup>MJ</sup> , <code>jkmath</code> , <code>kpfnts</code> <sup>MJ</sup> , <code>kpfnts-otf</code> <sup>MJ</sup> , <code>leftidx</code> <sup>MJ</sup> , <code>libertinust1math</code> <sup>MJ</sup> , <code>mathalpha</code> <sup>MJ</sup> , <code>mathastext</code> <sup>MJ</sup> , <code>mathcomp</code> <sup>MJ</sup> , <code>mathdesign</code> <sup>MJ</sup> , <code>mathdots</code> <sup>MJ</sup> , <code>mathfixs</code> <sup>MJ</sup> , <code>mathpazo</code> <sup>MJ</sup> , <code>mathptmx</code> <sup>MJ</sup> , <code>mathpunctspace</code> <sup>MJ</sup> , <code>mathspec</code> <sup>MJ</sup> , <code>mathtools</code> <sup>MJ</sup> , <code>mattens</code> <sup>MJ</sup> , <code>maybemath</code> <sup>MJ</sup> , <code>mdwmath</code> <sup>MJ</sup> , <code>mismath</code> <sup>MJ</sup> , <code>mletright</code> <sup>MJ</sup> , <code>multiobjective</code> <sup>MJ</sup> , <code>nccmath</code> <sup>MJ</sup> , <code>nicematrix</code> <sup>MJ</sup> , <code>noitcrl</code> <sup>MJ</sup> , <code>newpxmath</code> <sup>MJ</sup> , <code>newtxmath</code> <sup>MJ</sup> , <code>newtxsf</code> <sup>MJ</sup> , pb-diagram, pxfonts <sup>MJ</sup> , <code>reszegather</code> <sup>MJ</sup> , <code>rmathbr</code> <sup>MJ</sup> , <code>scalerel</code> <sup>MJ</sup> , <code>shuffle</code> <sup>MJ</sup> , <code>skmath</code> <sup>MJ</sup> , <code>stackrel</code> <sup>MJ</sup> , <code>statex2</code> <sup>MJ</sup> , <code>statistics</code> , <code>statmath</code> <sup>MJ</sup> , <code>subsubscripts</code> <sup>MJ</sup> , <code>tensind</code> , <code>tensor</code> <sup>MJ</sup> , <code>textualcomma</code> <sup>MJ</sup> , <code>txfonts</code> <sup>MJ</sup> , <code>txgreeks</code> <sup>MJ</sup> , <code>unicode-math</code> <sup>MJ</sup> , <code>upgreek</code> <sup>MJ</sup> , <code>ushort</code> <sup>MJ</sup> , <code>witharrows</code> <sup>MJ</sup> , <code>xfakebold</code> <sup>MJ</sup> , <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> <sup>MJ</sup> , <code>Slunits</code> <sup>MJ</sup> , <code>siunitx</code> <sup>MJ</sup> , <code>units</code> <sup>MJ</sup> , <code>unitsdef</code> , <code>xfrac</code> <sup>MJ</sup> .
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:	tabular environment, <code>array</code> <sup>MJ</sup> , <code>arydshln</code> <sup>MJ</sup> , <code>bigdelim</code> <sup>MJ</sup> , <code>bigstrut</code> <sup>MJ</sup> , <code>booktabs</code> <sup>MJ</sup> , <code>colortbl</code> <sup>MJ</sup> , <code>ctable</code> , <code>diagbox</code> , <code>hhline</code> <sup>MJ</sup> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtabular</code> , <code>multirow</code> <sup>MJ</sup> , <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>psfrags</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 <sup>A</sup> T <sub>E</sub> X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L <sup>A</sup> T <sub>E</sub> 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> <sup>MJ</sup> , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox</code> <sup>MJ</sup> , <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> <sup>MJ</sup> , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>letrine</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> <sup>MJ</sup> , <code>scalefnt</code> , <code>seqsplit</code> <sup>MJ</sup> , <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 L <sup>A</sup> T <sub>E</sub> X diacriticals, <code>academicons</code> , <code>amssymb</code> <sup>MJ</sup> , <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> <sup>MJ</sup> , <code>latexsym</code> <sup>MJ</sup> , <code>marvosym</code> , <code>metabook</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> , <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 <sup>MJ</sup> , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, econometrics <sup>MJ</sup> , elements, engtlc <sup>MJ</sup> , fast-diagram, ghsystem, hepnicenames, heppennames, hepunits <sup>MJ</sup> , isotope <sup>MJ</sup> , karnaughmap, karnaugh-map, keystroke, listings, listingsutf8, linop, menukeys, mhchem <sup>MJ</sup> , minted, pgfgnatt, phfqit, physics <sup>MJ</sup> , physunits <sup>MJ</sup> , plimsoll <sup>MJ</sup> , qcircuit, register, simplebnf, simpler-wick, slashed <sup>MJ</sup> , steinmetz <sup>MJ</sup> , 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 <sup>MJ</sup> , termcal
Admonitions:	awesonebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment <sup>MJ</sup> , pdfmarginpar, todo, todonotes, tram, xchangebar.
Accessibility:	accessibility <sup>MJ</sup> , accsupp <sup>MJ</sup> , accessibility <sup>MJ</sup> , pdfcomment <sup>MJ</sup> , repltext <sup>MJ</sup> , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, 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<sup>A</sup>T<sub>E</sub>X or other document to HTML. Where an existing L<sup>A</sup>T<sub>E</sub>X document is to be converted to HTML, lwarp 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 lwarp 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<sup>A</sup>T<sub>E</sub>X 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 lwarp 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<sup>A</sup>T<sub>E</sub>X syntax into HTML. Search for each on CTAN (<http://ctan.org>).

<b>Prog</b>	<b>Hevea</b>	<b>H<sup>E</sup>v<sup>F</sup>a:</b> <a href="http://hevea.inria.fr/">http://hevea.inria.fr/</a> (not on CTAN)
<b>Prog</b>	<b>TtH</b>	<b>T<sub>T</sub>H:</b> <a href="http://hutchinson.belmont.ma.us/tth/">http://hutchinson.belmont.ma.us/tth/</a>
<b>Prog</b>	<b>GELLMU</b>	<b>GELLMU:</b> <a href="http://www.albany.edu/~hammond/gellmu/">http://www.albany.edu/~hammond/gellmu/</a>
<b>Prog</b>	<b>LaTeXML</b>	<b>L<sup>A</sup>TeXML:</b> <a href="http://dlmf.nist.gov/LaTeXML/">http://dlmf.nist.gov/LaTeXML/</a>
<b>Prog</b>	<b>Plastex</b>	<b>PlasTeX:</b> <a href="https://github.com/tiarno/plastex">https://github.com/tiarno/plastex</a>
<b>Prog</b>	<b>LaTeX2HTML</b>	<b>L<sup>A</sup>TeX2HTML:</b> <a href="http://www.latex2html.org/">http://www.latex2html.org/</a> and <a href="http://ctan.org/pkg/latex2html">http://ctan.org/pkg/latex2html</a> .
<b>Prog</b>	<b>TeX2page</b>	<b>TeX2page:</b> <a href="http://ds26gte.github.io/tex2page/index.html">http://ds26gte.github.io/tex2page/index.html</a>

Finally, GladTeX may used to directly insert L<sup>A</sup>T<sub>E</sub>X 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>

Prog Asciidoc-LaTeX <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 LibreOffice

Prog OpenOffice

### 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X is comparably easy to learn, while L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X back end, yielding high-quality results especially when the L<sup>A</sup>T<sub>E</sub>X template is adjusted, but they lose the ability to use L<sup>A</sup>T<sub>E</sub>X macros and other L<sup>A</sup>T<sub>E</sub>X source-document features.

The effort required to customize the output of each markup system varies. For print output, L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X optional macro parameters, but further customization may require patching L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X distribution:**

From T<sub>E</sub>XLive: <http://tug.org/texlive/>.

**L<sup>A</sup>T<sub>E</sub>X:** *pdflatex*, *xelatex*, or *lualatex*.

**The l warp 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 l warp 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 l warp to create indexes. On a MiK<sup>T</sup>E<sub>X</sub> 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<sup>A</sup>T<sub>E</sub>X code. On a MiK<sup>T</sup>E<sub>X</sub> system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

**POPPLE PDF utilities:**

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

***pdfseparate*:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

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

These might be provided by your operating-system package manager, and MiK<sup>T</sup>E<sub>X</sub> provides *miktex-poppler-bin-\** packages.

From POPPLER: [poppler.freedesktop.org](http://poppler.freedesktop.org).

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

Enter ⇒ **brew install poppler**

For WINDOWS, see Mik<sup>T</sup>E<sub>X</sub> *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](http://strawberryperl.com) (recommended), [perl.org](http://perl.org)

**Automatically downloaded from the internet as required:**

**MATHJAX:** Optionally used to display math. From: [mathjax.org](http://mathjax.org)

## 4.1 Installing the l warp package

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

**Pre-installed:** Try entering into a command line:

Enter ⇒ **kpsewhich l warp.sty**

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

**TeX Live:** If using a TeX Live distribution, try installing via *t lmgr*:

Enter ⇒ **t lmgr install l warp**

**MiKTeX:**

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

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

**CTAN TDS archive:** l warp may be downloaded from the Comprehensive TeX Archive:

1. See <http://ctan.org/pkg/l warp> for the l warp package.
2. Download the TDS archive: l warp.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<sub>T</sub>E<sub>X</sub>, 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 *TEX Live* or MiK<sub>T</sub>E<sub>X</sub> 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 *TEX 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 *TEX Live*:** Create a new *lwarpmk.exe* file:

- (a) Locate the *TEX 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<sub>T</sub>E<sub>X</sub>:** Create a new *lwarpmk.bat* file:

- (a) Locate the MiK<sub>T</sub>E<sub>X</sub> binaries. These will be in a directory such as:

*C:\Program Files\MiK<sub>T</sub>E<sub>X</sub> 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<sub>T</sub>E<sub>X</sub> 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 `lwarf` package:

```
\usepackage[lwarpmk]{lwarf}
```

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 80.

```
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:**

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 80.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfsepate* 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X. 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<sup>A</sup>T<sub>E</sub>X 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.<sup>5</sup>

6. Process the index.<sup>6</sup> <sup>7</sup>

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.

---

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

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

<sup>7</sup>Also 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<sup>A</sup>T<sub>E</sub>X 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`<sup>8</sup>, `Some-math.html`, and the document's index in `_Index.html`.<sup>9</sup>

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<sup>A</sup>T<sub>E</sub>X 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:<sup>10</sup><sup>11</sup>

Enter ⇒ **`lwarpmk htmlindex`**

Enter ⇒ **`lwarpmk html`**

`_Index.html` is updated for the new L<sup>A</sup>T<sub>E</sub>X 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`**

---

<sup>8</sup>`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`.

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

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

<sup>11</sup>Also 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<sup>A</sup>T<sub>E</sub>X source included in alt attributes. In this way, the math is displayed as it was drawn by L<sup>A</sup>T<sub>E</sub>X, and the L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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.<sup>12</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 L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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.

---

<sup>12</sup>This 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 `lwarf`:

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

2. Recompile

Enter ⇒ `lwarfmk 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<sup>A</sup>T<sub>E</sub>X 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<sub>E</sub>LATEX or LuaLATEX

X<sub>E</sub>LATEX 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<sub>E</sub>LATEX 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<sup>A</sup>T<sub>E</sub>X 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, l warp 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 l warp uses *pdftotext* 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 l warp option pdftotextEnc may be useful in some situations. See section 7.5.

vector fonts While using DVI *latex* or PDF *pdflatex*, 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}
```

*latex, pdflatex, T1, UTF8* While using DVI *latex* or PDF *pdflatex*, l warp automatically loads fontenc with T1 encoding. fontenc may be loaded with an additional encoding after l warp. 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* XE<sup>L</sup>A<sub>T</sub>E<sub>X</sub> and Lua<sup>L</sup>A<sub>T</sub>E<sub>X</sub> 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{l warp}.

⚠ package conflicts In some cases, a package conflict may require that a font package be loaded after l warp, 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<sup>A</sup>T<sub>E</sub>X math expression in the alt text, so that the L<sup>A</sup>T<sub>E</sub>X 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:

– `fontspec` and font choices

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:

(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 `pdflx` 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 9.8.

**⚠️ dotless j**

Pkg `cmap`

Pkg `mmap`

Pkg `textcomp`

**⚠️ fontspec with monospaced fonts**

**⚠️ JETBRAIN MONO**  
**⚠️ HTML corrupted**

#### 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: Lwarf 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 <b>lwarpmk print</b> .
HTMLLatexCmd	The shell commands for <b>lwarpmk html</b> .
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 <b>lwarpmk printindex</b> .
HTMLIndexCmd	Shell commands executed by <b>lwarpmk htmlindex</b> .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
IndexRef	How to format index links.
GlossaryCmd	Shell command executed by <b>lwarpmk printglossary</b> and <b>lwarpmk htmlglossary</b> .
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 lwarf:	
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 L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X 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>	<small>(<i>makeindex</i>)</small> <small>(<i>xindy</i>)</small>
---	--

#### 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 L<sup>A</sup>T<sub>E</sub>X 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 sideroc.
\sidetocname	P	Name of the sideroc.
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.
\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 L<sup>A</sup>T<sub>E</sub>X 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.

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.<sup>13</sup>

---

```
\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.

---

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

---

<sup>13</sup>See \SetHTMLFileName to number in groups by chapter, for example.

## 7.7 Customizing the css

\CSSFilename  
Default: lwarf.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 lwarf include:

**lwarf.css:** A default style if \CSSFilename is not used. This style is comparable to a plain L<sup>A</sup>T<sub>E</sub>X document. To set this style, you may use \CSSFilename{lwarf.css}, or no \CSSFilename call at all.

**lwarf\_formal.css:** A formal style with a serif fonts and a traditional look.

**lwarf\_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 lwarf 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 lwarf.css, and this entry may be changed to load lwarf\_formal.css or lwarf\_sagebrush.css if desired. Additional changes to the css may be made by making entries later in the <project>.css file.

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

---

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

/* Uncomment one of the following: */
@import url("lwarf.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 <span>. \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 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.

Opt OSWindows

## 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<sup>A</sup>T<sub>E</sub>X print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L<sup>A</sup>T<sub>E</sub>X 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. 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.

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

---

\warpprintonly {⟨actions⟩}

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

\warpHTMLonly {⟨actions⟩}

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

Env warpMathJax Anything which is to be done only while using 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

## 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 `lwarf`.

`\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` *{⟨A description of the web page.⟩}*  
 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<sup>A</sup>T<sub>E</sub>X 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 l warp, 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 l warp:  
 \PassOptionsToPackage{font={it,small}}{caption}  
 . . .  
 \usepackage{l warp}  
 . . .  
 \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 xetoolbox, 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<sup>A</sup>T<sub>E</sub>X, 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<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<sup>E</sup>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.

#### 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 \textsuperscript{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 `<br />` 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 `<span>`. 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 <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 × 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, multicol** Inside a tabular or multicol 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.

**⚠ multicol** Inside a multicol, \ 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, \enskip, \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 <span> items during HTML output, but HTML cannot place a block element such as a <div> for a minipage or a list inside of a <span>. 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 <span> 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<sup>A</sup>T<sub>E</sub>X code, the result in HTML is problematic since a table is a <div> not a <span>, 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 662 for xcolor's \colorbox and \fcolorbox, and l warp's additional \colorboxBlock and \fcolorboxBlock.
- △ Misplaced alignment tab character &**
- 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 257 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
```

---

```
\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  $(x+y)$  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}}
```

## 8.5 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 524.

### 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 763 to redefine the message which is printed for page number references.

**⚠️ varioref types** clevereft changes the behavior of varioref in that the reference type is automatically printed if clevereft is loaded. Lwarp requires clevereft, 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 clevereft 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<sup>A</sup>T<sub>E</sub>X footnote code, although with its own \box to avoid the L<sup>A</sup>T<sub>E</sub>X 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{lwarf}
```

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 `lwarf`.

**⚠ 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 `lwarf` preloads `footmisc`, the `stable` option must be declared before `lwarf` is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarf}
...
```

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

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.

**⚠ pfnote** 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`.

**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 `lwarf` uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfLATEX. 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 Xe<sup>L</sup>A<sub>T</sub>E<sub>X</sub> or Lua<sup>L</sup>A<sub>T</sub>E<sub>X</sub> instead of pdf<sup>L</sup>A<sub>T</sub>E<sub>X</sub>.

### 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<sup>A</sup>T<sub>E</sub>X document, including native L<sup>A</sup>T<sub>E</sub>X 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 111.

**source code** See section 79 for *lwarf*'s core index and glossary code, section 338 for `index`, section 564 for `splitidx`, section 336 for `imakeidx`, section 617 for `tocbibind`, and section 683.17 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,           <optional>
    xindyCodepage=utf8,             <optional>
    latexmk                         <optional>
]{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                         <optional>
]{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 683.17 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:**

lwarp's options are used, and are passed to latexmk.

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
...
\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 lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
...
\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<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** 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>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<sup>A</sup>T<sub>E</sub>X into the initial PDF file using the current font<sup>14</sup>, 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<sup>A</sup>T<sub>E</sub>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<sup>A</sup>T<sub>E</sub>X code which generated the math, allowing copy/paste of the L<sup>A</sup>T<sub>E</sub>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—*without the backslash*, which defaults to:
- ```
\renewcommand{\LateximageFontSizeName}{\normalsize}
```
- For inline SVG math, font size is instead controlled by \LateximageFontSizeScale, which defaults to:
- ```
\newcommand*{\LateximageFontSizeScale}{.75}
```
- 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<sup>A</sup>T<sub>E</sub>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<sup>A</sup>T<sub>E</sub>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](http://mathjax.org)) L<sup>A</sup>T<sub>E</sub>X-math to HTML converter may be used to display math.

Prog MathJax

---

<sup>14</sup>See section 668 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 395, `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 is 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. `L warp` supports this extension.

#### ⚠ 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, `l warp` 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`

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. Another problem is complicated contents which do not expand well in an `alt` tag. Yet

#### changing contents

#### complicated alt tag

**MATHJAX limitations**

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 lwarf to use unhashed SVG math images for those particular expressins, 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`.<sup>15</sup> 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}{ % if using cleveref
        \crefname{Proof}{Proof}{Proofs}
    }{} % if not using cleveref
}
```

**8.7.11 ntheorem package****Pkg ntheorem**

This conversion is not total. Font control is via css, and the custom LATEX font settings are ignored.

**⚠ Font control****⚠ Equation numbering**

`ntheorem` has a bug with equation numbering in `AMS` environments when the option `thref` is used. lwarf does not share this bug, so equations with `\split`, etc, are

---

<sup>15</sup>lwarf uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

numbered correctly with l warp's HTML output, but not with the print output. It is recommended to use cleverref instead of ntheorem's thref option.

### 8.7.12 mathtools package

Pkg mathtools showonlyrefs is disabled, as it conflicts with cleverref, which is used by l warp. Equation numbers may not match the print version.

⚠️ italic correction mathtic 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.
- Due to MATHJAX limitations, the following do not render well: \overbracket, \underbracket, \overbrace, \underbrace, rcases, drcases, \Aboxed, and \ArrowBetweenLines.
- For the new cases-like environments, \text must be used to set the normal roman font if desired.
- 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}.

### 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 columns are rendered as simple c columns, and tabular s columns are not supported. 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, `lwarf` 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 `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.

### 8.7.14 units and `nicefrac` packages

`Pkg units` `units` and `nicefrac` work with `lwarf`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `lwarf`'s option `svgmath`.

### 8.7.15 physics package

`Pkg physics` `physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

## 8.8 Graphics

#### `Pkg graphics`

#### `Pkg graphicx`

#### ⚠️ `case sensitive`

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 `lwarf` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarf`. 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`.

Table 9: \includegraphics and file names

Print image file	HTML image file	Command to use
image.pdf <sup>a</sup>	image.svg <sup>a</sup>	\includegraphics{image}
image.eps <sup>a</sup>	image.svg <sup>a</sup>	\includegraphics{image}
image.jpg	— <sup>b</sup>	\includegraphics{image}
image.png	— <sup>b</sup>	\includegraphics{image}
image.JPG	— <sup>b</sup>	\includegraphics{image.JPG} <sup>c</sup>
image.PNG	— <sup>b</sup>	\includegraphics{image.PNG} <sup>c</sup>
image.jpg	image.gif	\includegraphics{image}

<sup>a</sup>: Must be a lowercase file extension.<sup>b</sup>: The same file is used for print and HTML.<sup>c</sup>: The uppercase extension must be specified.

**\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, 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 package** Enter ⇒ **lwarpmk 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 ⇒ **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.

- ⚠ 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 *lwarf*—the entire image will be shown.
  - ⚠ viewport 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 LATEX, 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

**⚠ matching PDF and SVG** 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 <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 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

**⚠ convert to .svg** Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **lwarfmk 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

⚠️ convert image files 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**

### 8.8.8 psfrag package

Pkg psfrag The psfrags environment is modified to use lateximage to encapsulate the image.

⚠️ use psfrags 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.

### 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.



`HTML5 <audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg movie15

`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@subsome}{[2]{%
  ...
  \otherenvironmentname [<args>] {<args>} % for example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somes}{%
  \StartDefiningTabulars
  \LWR@HTML@subsome
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsome}{%
  ...
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somes}
```

**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:****@ 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**

- `\newcolumntype` is ignored; unknown column types are set to l.

**Rules:**

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.

**vertical rules**

- 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:

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

**longtable headings**

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

**S columns**

- For S columns (from the `siunitx` 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 \\}
```

- 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 `\warpprint` environment.

#### 8.10.2 multirow package

**vposn**

- 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 `l warp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

**with `\multicolumn`**

 `\multicolumn` & `\multirow`

- See section 425.2 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 `longtable`**

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`.)

```
\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{\{}{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

---

$\begin{array}{ccc}
& a & b \\
& \left. \begin{array}{cc} c & d \\ e & f \\ g & h \end{array} \right. \\
\left. \begin{array}{c} \left. \begin{array}{c} \left. \begin{array}{cc} & \\ & \end{array} \right. \\ \left. \begin{array}{cc} & \\ & \end{array} \right. \end{array} \right. \\
& i & j
\end{array}$

---

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 628.1.

Pkg trivfloat

Pkg algorithmicx

#### ⚠ package conflicts

Pkg caption

Pkg subcaption

Package options may cause problems with `l warp`, 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 `l warp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{l warp}
...
\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

Cls komascript

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.

## 8.13 MEMOIR class

Cls memoir

⚠ 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 683.1). 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` prints 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.

-  **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. *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 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.
- ⚠ verse margin**

### 8.15.2 newclude package

**Pkg newclude** `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

```
\documentclass{article}
. . . <font setup>
\usepackage{newclude}
\usepackage[warpHTML]{lwarp}
. . .
```

### 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 `lwarp` is loaded:

```
\renewcommand*\CaptionSeparator}{:~}
```

- punctuation spaces** Also when French is used, `lwarp` 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.
- ⚠ customized spacing**

### 8.15.4 polyglossia package

**Pkg polyglossia** `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`.

### 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.

### 8.15.6 fixme

Pkg `fixme` External layouts (`\fxloadlayouts`) are not supported.

⚠ **external layouts**

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'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 `lateximage`:

```
\begin{lateximage}[-chemfig-\~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{lateximage}
```

### 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 406.

### 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
    },
    HTMLLatexCmd=
    {
        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 Other packages

Pkg sympytex Other packages such as `sympytex` and `rterface` would be set up similar to `pythontex`,

Pkg rterface

and the same warnings would apply.

## 9.7 *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`.

## 9.8 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 `dita` The only example seen so far where this is required is the `dita` package, where the locale change allows the use of UTF-8 with Xe<sup>L</sup>A<sub>E</sub>T<sub>X</sub> and `dita`. To use Lu<sup>a</sup>L<sup>A</sup>E<sub>T</sub>X instead, the locale change would have to be made inside the `dita` package where its calls the `dita` 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 lwarp 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 208.

### 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 192.

## 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 L <sup>A</sup> T <sub>E</sub> X 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 452 (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 `\LWR@loadafter{<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><sub>A</sub>T<sub>E</sub>X, L<sup>A</sup>u<sub>E</sub>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 lwarp'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 `lwarpmk` again followed by `lwarpmk html` or `lwarpmk 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 763 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>1</sub><sup>4</sup>L<sub>A</sub>T<sub>E</sub>X or LuaL<sub>A</sub>T<sub>E</sub>X.

**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:**

- Enter `lwarpmk limages` to refresh the `lateximage` 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 L<sub>A</sub>T<sub>E</sub>X recompile warnings.

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.

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<sub>A</sub>T<sub>E</sub>X 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<sub>A</sub>T<sub>E</sub>X 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.

<sup>16</sup>This becomes important when dealing with a document containing thousands of images.

### 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

\tracinglwarf When \tracinglwarf is used, lwarf will add extra tracing messages to the .log file. The last several messages may help track down errors.

Place \tracinglwarf just after \usepackage{lwarf} to activate tracing.

### 13.3 Compiling the lwarf.dtx file

**lwarf\_tutorial.tex:** Copy or link lwarf\_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 lwarf.sty file:

1. Delete the lwarf.sty file.
2. Enter **pdflatex lwarf.ins** to generate a new lwarf.sty file.
3. Enter **pdflatex lwarf.dtx** to recompile the lwarf.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 192.

## 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 lwarf 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 lwarf package.

**line numbers** The small numbers at the left end of a line refer to line numbers in the lwarf.sty file.

**subjects** Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph.

**objects** 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

**index entries** 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 **TEX** engine — *pdflatex, lualatex, xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects XETEX and LuaLETEX:

```

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         Class(es) #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 class(es) #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{beamer}{}  
162 \LWR@checkloadnever{bidi}{}  
163 \LWR@checkloadnever{cals}{}  
164 \LWR@checkloadnever{cellspace}{}  
165 \LWR@checkloadnever{cgloss4e}{}  
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 {\langle badpackagename\rangle} {\langle replacementpkgnname\rangle}
```

The first package is not supported, so tell the user to use the second instead.

When `lwarp` is first loaded, this is set to `\LWR@earlyloadnever` to check for incompatible packages which were loaded before `lwarp`. After `lwarp` 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 `lwarp`:

```
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 `lwarp`:

```

238 \LWR@earlyclassloadnever{jarticle}{ujarticle}
239 \LWR@earlyclassloadnever{jbook}{ujbook}
240 \LWR@earlyclassloadnever{jreport}{ujreport}
241 \LWR@earlyclassloadnever{tarticle}{utarticle}
242 \LWR@earlyclassloadnever{tbook}{utbook}
243 \LWR@earlyclassloadnever{treport}{utreport}
244 \LWR@earlyclassloadnever{novel}{}
245 \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:

```
246 \LWR@loadafter{2in1}
247 \LWR@loadafter{2up}
248 \LWR@loadafter{a4}
249 \LWR@loadafter{a4wide}
250 \LWR@loadafter{a5comb}
251 \LWR@notmemoirloadafter{abstract}
252 \LWR@loadafter{academicons}
253 \LWR@loadafter{accents}
254 \LWR@loadafter{accessibility}
255 \LWR@loadafter{accsupp}
256 \LWR@loadafter{acro}
257 \LWR@loadafter{acronym}
258 \LWR@loadafter{adjmulticol}
259 \LWR@loadafter{addlines}
260 \LWR@loadafter{afterpage}
261 \LWR@loadafter{algorithm2e}
262 \LWR@loadafter{algorithmicx}
263 \LWR@loadafter{alltt}
264 \LWR@loadafter{amscdx}
265 % \LWR@loadafter{amsmath}% may be preloaded
266 % \LWR@loadafter{amsthm}% may be preloaded
267 \LWR@loadafter{anonchap}
268 \LWR@loadafter{any size}
269 \LWR@notmemoirloadafter{appendix}
270 \LWR@loadafter{ar}
271 \LWR@loadafter{arabicfront}
272 \LWR@notmemoirloadafter{array}
273 \LWR@loadafter{arydshln}
274 \LWR@loadafter{asymptote}
275 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
276 \LWR@loadafter{attachfile}
277 \LWR@loadafter{attachfile2}
278 \LWR@loadafter{authblk}
279 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
280 \LWR@loadafter{autobreak}
281 \LWR@loadafter{autonum}
282 \LWR@loadafter{awesomebox}
283 \LWR@loadafter{axessibility}
284 \LWR@loadafter{axodraw2}
285 \LWR@loadafter{backnaur}
286 \LWR@loadafter{backref}
287 \LWR@loadafter{balance}
288 \LWR@loadafter{bbding}
289 \LWR@loadafter{bigdelim}
290 \LWR@loadafter{bigfoot}
291 \LWR@loadafter{bigstrut}
292 \LWR@loadafter{bitpattern}
293 \LWR@loadafter{blowup}
```

```
294 \LWR@loadafter{bm}
295 \LWR@loadafter{booklet}
296 \LWR@loadafter{bookmark}
297 \LWR@notmemoirloadafter{booktabs}
298 \LWR@loadafter{bophook}
299 \LWR@loadafter{bounddvi}
300 \LWR@loadafter{boxedminipage}
301 \LWR@loadafter{boxedminipage2e}
302 \LWR@loadafter{braket}
303 \LWR@loadafter{breakurl}
304 \LWR@loadafter{breqn}
305 \LWR@loadafter{bsheaders}
306 \LWR@loadafter{bussproofs}
307 \LWR@loadafter{bxpapersize}
308 \LWR@loadafter{bytefield}
309 \LWR@loadafter{ccicons}
310 \LWR@loadafter{cancel}
311 \LWR@loadafter{canoniclayout}
312 \LWR@loadafter{caption}
313 \LWR@loadafter{caption2}
314 \LWR@loadafter{caption3}
315 \LWR@loadafter{cases}
316 % catoptions is supported by the lwarf core
317 % \LWR@loadafter{ccaption} may be preloaded by memoir
318 \LWR@loadafter{centerlastline}
319 % \LWR@loadafter{centernot} may be preloaded by newtx
320 \LWR@loadafter{changebar}
321 \LWR@loadafter{changelayout}
322 \LWR@notmemoirloadafter{changepage}
323 \LWR@loadafter{changes}
324 \LWR@loadafter{chappg}
325 \LWR@loadafter{chapterbib}
326 \LWR@loadafter{chemfig}
327 \LWR@loadafter{chemformula}
328 \LWR@loadafter{chemgreek}
329 \LWR@loadafter{chemmacros}
330 \LWR@loadafter{chemnum}
331 \LWR@loadafter{chkfloat}
332 \LWR@notmemoirloadafter{chngpage}
333 \LWR@loadafter{cite}
334 \LWR@loadafter{citeref}
335 \LWR@loadafter{classicthesis}
336 \LWR@loadafter{cleveref}
337 % cmbright may be preloaded
338 \LWR@loadafter{cmdtrack}
339 \LWR@loadafter{colonequals}
340 \LWR@loadafter{color}
341 \LWR@loadafter{colortbl}
342 \LWR@loadafter{continue}
343 \LWR@loadafter{copyrightbox}
344 \LWR@notmemoirloadafter{crop}
345 % ctex must be loaded before lwarf
346 \LWR@loadafter{ctable}
347 \LWR@loadafter{cuted}
348 \LWR@loadafter{cutwin}
```

```
349 \LWR@loadaft{dblfloatfix}
350 \LWR@loadaft{dblfnote}
351 \LWR@notmemoirloadaft{dcolumn}
352 \LWR@loadaft{decimal}
353 \LWR@loadaft{decorule}
354 \LWR@loadaft{diagbox}
355 \LWR@loadaft{dingbat}
356 \LWR@loadaft{DotArrow}
357 \LWR@loadaft{dotlessi}
358 \LWR@loadaft{dprogress}
359 \LWR@loadaft{draftcopy}
360 \LWR@loadaft{draftfigure}
361 \LWR@loadaft{draftwatermark}
362 \LWR@loadaft{drftcite}
363 \LWR@loadaft{easy-todo}
364 \LWR@loadaft{ebook}
365 \LWR@loadaft{econometrics}
366 \LWR@loadaft{ed}
367 \LWR@loadaft{ellipsis}
368 \LWR@loadaft{embrac}
369 \LWR@loadaft{emptypage}
370 \LWR@loadaft{endfloat}
371 \LWR@loadaft{endheads}
372 \LWR@loadaft{endnotes}
373 \LWR@loadaft{engtlc}
374 \LWR@loadaft{enotez}
375 \LWR@notmemoirloadaft{enumerate}
376 \LWR@loadaft{enumitem}
377 \LWR@notmemoirloadaft{epigraph}
378 \LWR@loadaft{epsf}
379 \LWR@loadaft{epsfig}
380 \LWR@loadaft{epstopdf}
381 \LWR@loadaft{epstopdf-base}
382 \LWR@loadaft{eqlist}
383 \LWR@loadaft{eqparbox}
384 \LWR@loadaft{errata}
385 \LWR@loadaft{eso-pic}
386 \LWR@loadaft{esvect}
387 \LWR@loadaft{etoc}
388 \LWR@loadaft{eurosym}
389 \LWR@loadaft{everypage}
390 % \LWR@loadaft{everyshi} % now in LaTeX core
391 \LWR@loadaft{extarrows}
392 \LWR@loadaft{extramarks}
393 \LWR@loadaft{fancybox}
394 \LWR@loadaft{fancyhdr}
395 \LWR@loadaft{fancypar}
396 \LWR@loadaft{fancyref}
397 \LWR@loadaft{fancytabs}
398 \LWR@loadaft{fancyvrb}
399 \LWR@loadaft{fbox}
400 \LWR@loadaft{fewerfloatpages}
401 \LWR@loadaft{figcaps}
402 \LWR@loadaft{figsize}
403 \LWR@loadaft{fitbox}
```

```
404 \LWR@loadaft er{fix2col}
405 \LWR@loadaft er{fixmath}
406 \LWR@loadaft er{fixme}
407 \LWR@loadaft er{fixmetodonotes}
408 \LWR@loadaft er{flafter}
409 \LWR@loadaft er{flippdf}
410 \LWR@loadaft er{float}
411 \LWR@loadaft er{floatfl t}
412 \LWR@loadaft er{floatpag}
413 \LWR@loadaft er{floatrow}
414 \LWR@loadaft er{fltrace}
415 \LWR@loadaft er{flushend}
416 \LWR@loadaft er{fnbreak}
417 \LWR@loadaft er{fncychap}
418 \LWR@loadaft er{fnlineno}
419 \LWR@loadaft er{fnpara}
420 \LWR@loadaft er{fnpos}
421 \LWR@loadaft er{fontawesom e}
422 \LWR@loadaft er{fontawesom e5}
423 % fontenc must be loaded before l warp
424 % fonts e c must be loaded before l warp
425 \LWR@loadaft er{footmisc}
426 \LWR@loadaft er{footnote}
427 \LWR@loadaft er{footnotebackref}
428 \LWR@loadaft er{footnotehyper}
429 \LWR@loadaft er{footnoterange}
430 \LWR@loadaft er{footnpag}
431 \LWR@loadaft er{foreign}
432 \LWR@loadaft er{forest}
433 \LWR@loadaft er{fouridx}
434 % fourier may be loaded before l warp
435 \LWR@loadaft er{framed}
436 \LWR@loadaft er{froufrou}
437 \LWR@loadaft er{ftcap}
438 \LWR@loadaft er{ftnright}
439 \LWR@loadaft er{fullminipage}
440 \LWR@loadaft er{fullpage}
441 \LWR@loadaft er{fullwidth}
442 \LWR@loadaft er{fvextra}
443 \LWR@loadaft er{fwlw}
444 \LWR@loadaft er{gensymb}
445 \LWR@loadaft er{gentombow}
446 % geometry is always loaded by l warp, and l warp-geometry is AtBeginDocument
447 \LWR@loadaft er{ghsystem}
448 \LWR@loadaft er{gindex}
449 \LWR@loadaft er{glossaries}
450 \LWR@loadaft er{gmeometric}
451 % \LWR@loadaft er{graphics} % pre-loaded by xunicode
452 % \LWR@loadaft er{graphicx} % pre-loaded by xunicode
453 \LWR@loadaft er{gloss}
454 \LWR@loadaft er{glossary}
455 \LWR@loadaft er{grffile}
456 \LWR@loadaft er{grid}
457 \LWR@loadaft er{grid-system}
458 \LWR@loadaft er{gridset}
```

```
459 \LWR@loadaft er{hang}
460 \LWR@loadaft er{hanging}
461 \LWR@loadaft er{hepunits}
462 \LWR@loadaft er{hhline}
463 \LWR@loadaft er{hhtensor}
464 \LWR@loadaft er{hypbmsec}
465 \LWR@loadaft er{hypcap}
466 \LWR@loadaft er{hypdestopt}
467 \LWR@loadaft er{hypernat}
468 \LWR@loadaft er{hyperref}
469 \LWR@loadaft er{hyperxmp}
470 \LWR@loadaft er{hyphenat}
471 \LWR@loadaft er{idxlayout}
472 \LWR@loadaft er{ifoddpage}
473 \LWR@loadaft er{imakeidx}
474 \LWR@loadaft er{impnattypo}
475 \LWR@notmemoirloadaft er{index}
476 % inputenc must be loaded before l warp
477 % inputenx must be loaded before l warp
478 % inputtrc may be loaded before l warp
479 \LWR@loadaft er{intopdf}
480 \LWR@loadaft er{isomath}
481 \LWR@loadaft er{isotope}
482 \LWR@loadaft er{jurabib}
483 \LWR@loadaft er{karnaugh-map}
484 \LWR@loadaft er{keyfloat}
485 \LWR@loadaft er{keystroke}
486 % kpfonts may be loaded before l warp
487 % kpfonts-otf may be loaded before l warp
488 \LWR@loadaft er{layaureo}
489 \LWR@loadaft er{layout}
490 \LWR@loadaft er{layouts}
491 \LWR@loadaft er{leading}
492 \LWR@loadaft er{leftidx}
493 \LWR@loadaft er{letterspace}
494 \LWR@loadaft er{lettrine}
495 % libertinust1math may be loaded before l warp
496 \LWR@loadaft er{lineno}
497 \LWR@loadaft er{lips}
498 \LWR@loadaft er{listings}
499 \LWR@loadaft er{listliketab}
500 \LWR@loadaft er{longtable}
501 \LWR@loadaft er{lpic}
502 \LWR@loadaft er{lscape}
503 \LWR@loadaft er{ltablex}
504 \LWR@loadaft er{ltcaption}
505 \LWR@loadaft er{ltxgrid}
506 \LWR@loadaft er{ltxtable}
507 \LWR@loadaft er{lua-check-hyphen}
508 \LWR@loadaft er{lua-visual-debug}
509 \LWR@loadaft er{luacolor}
510 \LWR@loadaft er{luamplib}
511 \LWR@loadaft er{luatodonotes}
512 \LWR@loadaft er{luavlna}
513 \LWR@loadaft er{lyluatex}
```

```
514 \LWR@loadafter{magaz}
515 \LWR@notmemoirloadafter{makeidx}
516 \LWR@loadafter{manyfoot}
517 \LWR@loadafter{marginfit}
518 \LWR@loadafter{marginfix}
519 \LWR@loadafter{marginnote}
520 \LWR@loadafter{marvosym}
521 % mathalpha may be loaded before lwarf
522 \LWR@loadafter{mathastext}
523 \LWR@loadafter{mathcomp}
524 \LWR@loadafter{mathdesign}
525 \LWR@loadafter{mathdots}
526 \LWR@loadafter{mathfixs}
527 \LWR@loadafter{mathpazo}
528 \LWR@loadafter{mathptmx}
529 \LWR@loadafter{mathspec}
530 \LWR@loadafter{mathtools}
531 \LWR@loadafter{mattens}
532 \LWR@loadafter{maybemath}
533 \LWR@loadafter{mcaption}
534 \LWR@loadafter{mdframed}
535 \LWR@loadafter{mdwmath}
536 \LWR@loadafter{media9}
537 \LWR@loadafter{memhfixc}
538 \LWR@loadafter{menukeys}
539 \LWR@loadafter{metalogo}
540 \LWR@loadafter{metalogox}
541 \LWR@loadafter{mhchem}
542 \LWR@loadafter{microtype}
543 \LWR@loadafter{midfloat}
544 \LWR@loadafter{midpage}
545 \LWR@loadafter{minibox}
546 \LWR@loadafter{minitoc}
547 \LWR@loadafter{minted}
548 \LWR@loadafter{mismath}
549 \LWR@loadafter{mletright}
550 % morefloats must be allowed early for print mode
551 \LWR@notmemoirloadafter{moreverb}
552 % morewrites must be loaded before lwarf
553 \LWR@notmemoirloadafter{movie15}
554 \LWR@notmemoirloadafter{mparhack}
555 \LWR@loadafter{multibib}
556 \LWR@loadafter{multicap}
557 \% \LWR@loadafter{multicol} \% loaded by ltxdoc
558 \LWR@loadafter{multicolrule}
559 \LWR@loadafter{multimedia}
560 \LWR@loadafter{multiobjective}
561 \LWR@loadafter{multirow}
562 \LWR@loadafter{multitoc}
563 \LWR@loadafter{musicography}
564 \LWR@loadafter{nameauth}
565 \LWR@loadafter{nameref}
566 \LWR@loadafter{natbib}
567 \LWR@notmemoirloadafter{nccfancyhdr}
568 \LWR@loadafter{nccfoots}
```

```
569 \LWR@loadafter{nccmath}
570 \LWR@notmemoirloadafter{needspace}
571 % newclude must be loaded before l warp
572 % newpxmath may be preloaded
573 % newtxmath may be loaded before l warp
574 % newtxsf may be loaded before l warp
575 % newunicodechar must be loaded before l warp
576 \LWR@notmemoirloadafter{nextpage}
577 \LWR@loadafter{nicefrac}
578 \LWR@loadafter{niceframe}
579 \LWR@loadafter{nicematrix}
580 \LWR@loadafter{noitcrl}
581 \LWR@loadafter{nolbreaks}
582 \LWR@loadafter{nomencl}
583 \LWR@loadafter{nonfloat}
584 \LWR@loadafter{nonumonpart}
585 \LWR@loadafter{nopageno}
586 \LWR@loadafter{notes}
587 \LWR@loadafter{notespages}
588 \LWR@loadafter{nowidow}
589 \LWR@loadafter{ntheorem}
590 \LWR@loadafter{octave}
591 \LWR@loadafter{orcidlink}
592 \LWR@loadafter{overpic}
593 \LWR@loadafter{pagegrid}
594 \LWR@notmemoirloadafter{pagenote}
595 \LWR@loadafter{pagesel}
596 \LWR@loadafter{paralist}
597 \LWR@loadafter{parallel}
598 \LWR@loadafter{parcolumns}
599 \LWR@loadafter{parnotes}
600 \LWR@notmemoirloadafter{parskip}
601 \LWR@loadafter{pbalance}
602 \LWR@loadafter{pbox}
603 \LWR@loadafter{pdfcol}
604 \LWR@loadafter{pdfcolfoot}
605 \LWR@loadafter{pdfcolmk}
606 \LWR@loadafter{pdfcolparallel}
607 \LWR@loadafter{pdfcolparcolumns}
608 \LWR@loadafter{pdfcomment}
609 \LWR@loadafter{pdfcrypt}
610 \LWR@loadafter{pdflscape}
611 \LWR@loadafter{pdfmarginpar}
612 \LWR@loadafter{pdfpages}
613 \LWR@loadafter{pdfprivacy}
614 \LWR@loadafter{pdfrender}
615 \LWR@loadafter{pdfsync}
616 \LWR@loadafter{pdftricks}
617 \LWR@loadafter{pdfx}
618 \LWR@loadafter{perpage}
619 \LWR@loadafter{pfnote}
620 \LWR@loadafter{phfqit}
621 \LWR@loadafter{physics}
622 \LWR@loadafter{physunits}
623 \LWR@loadafter{picinpar}
```

```
624 \LWR@loadaft{pifont}
625 \LWR@loadaft{pinlabel}
626 \LWR@loadaft{placeins}
627 \LWR@loadaft{plarray}
628 \LWR@loadaft{plarydshln}
629 \LWR@loadaft{plexarray}
630 \LWR@loadaft{plexarydshln}
631 \LWR@loadaft{plcolortbl}
632 \LWR@loadaft{plextdelarray}
633 \LWR@loadaft{plimsoll}
634 \LWR@loadaft{prelim2e}
635 \LWR@loadaft{prettyref}
636 \LWR@loadaft{preview}
637 \LWR@loadaft{psfrag}
638 \LWR@loadaft{psfragx}
639 \LWR@loadaft{pst-eps}
640 \LWR@loadaft{pstool}
641 \LWR@loadaft{pstricks}
642 % \LWR@loadaft{pxatbegshi}% may be used by morewrites
643 \LWR@loadaft{pxeveryshi}
644 % \LWR@loadaft{pxfonts}% may be loaded before lwarf
645 \LWR@loadaft{pxftnright}
646 \LWR@loadaft{pxjahyper}
647 \LWR@loadaft{quotchap}
648 \LWR@loadaft{quoting}
649 \LWR@loadaft{ragged2e}
650 \LWR@loadaft{realscripts}
651 \LWR@loadaft{refcheck}
652 \LWR@loadaft{register}
653 \LWR@loadaft{relsize}
654 \LWR@loadaft{repeatindex}
655 \LWR@loadaft{resizegather}
656 \LWR@loadaft{returntogrid}
657 \LWR@loadaft{rlepsf}
658 \LWR@loadaft{rmathbr}
659 \LWR@loadaft{rmpage}
660 \LWR@loadaft{romanbar}
661 \LWR@loadaft{romanbarpagename}
662 \LWR@loadaft{rotating}
663 \LWR@loadaft{rotfloat}
664 \LWR@loadaft{rviewport}
665 \LWR@loadaft{savetrees}
666 % scalefont is loaded by babel-french
667 \LWR@loadaft{scalerel}
668 \LWR@loadaft{schemata}
669 \LWR@loadaft{scrextend}
670 \LWR@loadaft{scrhack}
671 \LWR@loadaft{scrlayer}
672 \LWR@loadaft{scrlayer-notecolumn}
673 \LWR@loadaft{scrlayer-scrpage}
674 \LWR@loadaft{scrpage2}
675 \LWR@loadaft{section}
676 \LWR@loadaft{sectionbreak}
677 \LWR@loadaft{sectsty}
678 \LWR@loadaft{selectp}
```

```
679 \LWR@loadafter{semantic-markup}
680 \LWR@notmemoirloadafter{setspace}
681 \LWR@loadafter{shadow}
682 \LWR@loadafter{shapepar}
683 \LWR@notmemoirloadafter{showidx}
684 \LWR@loadafter{showkeys}
685 \LWR@loadafter{showtags}
686 \LWR@loadafter{shuffle}
687 \LWR@loadafter{sidecap}
688 \LWR@loadafter{sidenotes}
689 \LWR@loadafter{simplebnf}
690 \LWR@loadafter{SIunits}
691 \LWR@loadafter{siumitx}
692 \LWR@loadafter{siumitx-v2}
693 \LWR@loadafter{skmath}
694 \LWR@loadafter{slantsc}
695 \LWR@loadafter{slashed}
696 \LWR@loadafter{soul}
697 \LWR@loadafter{soulpos}
698 \LWR@loadafter{soulutf8}
699 \LWR@loadafter{splitbib}
700 \LWR@loadafter{splitidx}
701 \LWR@loadafter{srcltx}
702 \LWR@loadafter{srctex}
703 \LWR@loadafter{stabular}
704 \LWR@loadafter{stackengine}
705 \LWR@loadafter{stackrel}
706 \LWR@loadafter{statex2}
707 \LWR@loadafter{statistics}
708 \LWR@loadafter{statmath}
709 \LWR@loadafter{steinmetz}
710 \LWR@notltjloadafter{stffloats}
711 \LWR@loadafter{struktex}
712 \LWR@loadafter{subcaption}
713 \LWR@loadafter{subfig}
714 \LWR@loadafter{subfigure}
715 \LWR@loadafter{subsupscripts}
716 \LWR@loadafter{supertabular}
717 \LWR@loadafter{svg}
718 \LWR@loadafter{swfigure}
719 \LWR@loadafter{syntonly}
720 \LWR@loadafter{t1inc}
721 \LWR@loadafter{tabfigures}
722 \LWR@loadafter{tbls}
723 \LWR@loadafter{tablefootnote}
724 \LWR@notmemoirloadafter{tabularx}
725 \LWR@loadafter{tabulary}
726 \LWR@loadafter{tagpdf}
727 \LWR@loadafter{tascmac}
728 \LWR@loadafter{tcolorbox}
729 \LWR@loadafter{tensor}
730 \LWR@loadafter{termcal}
731 \LWR@loadafter{textarea}
732 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
733 \LWR@loadafter{textfit}
```

```
734 \LWR@loadaft{txtpos}
735 \LWR@loadaft{theorem}
736 \LWR@loadaft{thinsp}
737 \LWR@loadaft{thm-listof}
738 \LWR@loadaft{thm-restate}
739 \LWR@loadaft{thmbox}
740 \LWR@loadaft{thmtools}
741 \LWR@loadaft{threadcol}
742 \LWR@loadaft{threepartable}
743 \LWR@loadaft{threeparttablex}
744 \LWR@loadaft{thumb}
745 \LWR@loadaft{thumbs}
746 \LWR@loadaft{tikz}
747 \LWR@loadaft{tikz-imagelabels}
748 \LWR@loadaft{titleps}
749 \LWR@loadaft{titlesec}
750 \LWR@loadaft{titletoc}
751 \LWR@notmemoirloadaft{titling}
752 % \LWR@loadaft{tocbasic}% preloaded by koma-script classes
753 \LWR@notmemoirloadaft{tocbibind}
754 \LWR@loadaft{tocdata}
755 \LWR@loadaft{toccenter}
756 \LWR@notmemoirloadaft{tocloft}
757 \LWR@loadaft{tocstyle}
758 \LWR@loadaft{todo}
759 \LWR@loadaft{todonotes}
760 \LWR@loadaft{topcapt}
761 \LWR@loadaft{tram}
762 \LWR@loadaft{transparent}
763 \LWR@loadaft{trimclip}
764 \LWR@loadaft{trivfloat}
765 \LWR@loadaft{truncate}
766 \LWR@loadaft{turnthepage}
767 \LWR@loadaft{twoup}
768 % \LWR@loadaft{txfonts}% may be loaded before lwarp
769 % txgreeks may be loaded before lwarp

770 % \LWR@loadaft{typearea}% preloaded by koma-script classes
771 \LWR@loadaft{typicons}
772 % \LWR@loadaft{ulem}% preloaded by ctexart and related classes
773 \LWR@loadaft{umoline}
774 \LWR@loadaft{underscore}
775 % unicode-math may be loaded before lwarp
776 \LWR@loadaft{units}
777 \LWR@loadaft{unitsdef}
778 \LWR@loadaft{upgreek}
779 \LWR@loadaft{upref}
780 \LWR@loadaft{url}
781 \LWR@loadaft{ushort}
782 \LWR@loadaft{uspace}
783 \LWR@loadaft{variorref}
784 \LWR@notmemoirloadaft{verse}
785 \LWR@loadaft{versonotes}
786 \LWR@loadaft{vertbars}
787 \LWR@loadaft{vmargin}
```

---

```

788 \LWR@loadaft{vowel}
789 \LWR@loadaft{vpe}
790 \LWR@loadaft{vwcol}
791 \LWR@loadaft{wallpaper}
792 \LWR@loadaft{watermark}
793 \LWR@loadaft{widetable}
794 \LWR@loadaft{widows-and-orphans}
795 \LWR@loadaft{witharrows}
796 \LWR@loadaft{wrapfig}
797 \LWR@loadaft{xbmks}
798 \LWR@loadaft{xcolor}
799 \LWR@loadaft{xchangebar}
800 \LWR@loadaft{xellipsis}
801 % xetexko must be loaded before lwarp
802 \LWR@loadaft{xevlna}
803 \LWR@loadaft{xfakebold}
804 \LWR@loadaft{xfrac}
805 \LWR@loadaft{xltabular}
806 \LWR@loadaft{xltxtra}
807 \LWR@loadaft{xmpincl}
808 \LWR@loadaft{xpiano}
809 \LWR@loadaft{xpinyin}
810 \LWR@loadaft{xr}
811 \LWR@loadaft{xr-hyper}
812 \LWR@loadaft{xtab}
813 % xunicode must be loaded before lwarp
814 \LWR@loadaft{xurl}
815 \LWR@loadaft{xy}
816 \LWR@loadaft{zwpagelayout}

```

## 21 MD5 hashing

The MD5 hash is used for `lateximage` filenames for SVG math.

```

817 \newcommand{\LWR@mdfive}[1]{%
818     \PackageError{lwarp}%
819         {No MD5 macro was found}%
820         {}%
821         Lwarp must find the macros \protect\pdfmdfivesum\space%
822         or \protect\mdfivesum.%%
823     }%
824 }

```

The default for `pdflatex`, `dviLATEX`, `upLATEX`, etc:

```
825 \let\LWR@mdfive\pdfmdfivesum
```

For `Luatex`:

```

826 \ifLuaTeX
827 \RequirePackage{pdftexcmds}
828 \let\LWR@mdfive\pdf@mdfivesum

```

```
829 \fi
```

For X<sup>E</sup>LATEX:

```
830 \ifXeTeX
831 \@ifundefined{pdffivesum}{}%
832   {\let\LWR@mdfive\pdfmdfivesum}
833 \@ifundefined{mdfivesum}{}%
834   {\let\LWR@mdfive\mdfivesum}
835 \fi
```

## 22 pdfLATEX T1 and UTF-8 encoding

When using pdfLATEX, 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<sup>E</sup>LATEX and LuaLATEX are both UTF-8 by nature.

\LWR@pdfencoding Sets T1, and also utf8 if not already set.

```
836 \newcommand*{\LWR@pdfencoding}{%
837   \RequirePackage[T1]{fontenc}
838
839   \@ifpackageloaded{inputenc}{}{%
840     \@ifpackageloaded{inputenx}{}{%
841       \RequirePackage[utf8]{inputenc}
842     }%
843   }%
844 }

845 \ifPDFTeX% pdflatex or dvi latex
846   \LWR@pdfencoding
847 \fi
848
849 \ifpTeX
850   \LWR@pdfencoding
851 \fi
```

## 23 Unicode input characters

**for HTML & PRINT:** 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 \texttimes.

The first arguments of \newunicodechar below are text ligatures in the source code, even though they are not printed in the following listing.

```

852 \ifTeX
853 \else
854 \RequirePackage{newunicodechar}
855
856 \newunicodechar{x}{\texttimes}
857
858 \ifPDFTeX% pdflatex or dvi latex
859 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
860 \newunicodechar{fi}{fi}
861 \newunicodechar{fl}{fl}
862 \newunicodechar{ffi}{ffi}
863 \newunicodechar{ffl}{ffl}
864 \newunicodechar{-}{---}
865 \newunicodechar{-}{--}
866 \fi
867
868 \fi

```

## 24 Avoid a bitmapped font

If DVI or PDF L<sup>A</sup>T<sub>E</sub>X, and if the default Computer Modern is the selected font family, ensure that cm-super or lmodern is used to provide a vector font.

```

869 \ifxetexorluatex
870 \else
871     \ifdefstring{\f@family}{cmr}{
872         \IfFileExists{type1ec.sty}{% found in cm-super
873             {}
874             {%
875                 \IfFileExists{lmodern.sty} {
876                     \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
877                     \RequirePackage{lmodern}
878                 }{
879                     \PackageError{lwarp}{%
880                         {%
881                             Lwarp requires a vector font.\MessageBreak
882                             Install and load cm-super, lmodern, or another\MessageBreak
883                             Type-1 vector font before loading lwarp.\MessageBreak
884                             Enter 'H' for possible solutions%
885                         }
886                         {%
887                             Install cm-super or lmodern.\MessageBreak
888                             If lmodern, load it before lwarp:\MessageBreak
889                             \space\space\protect\usepackage{lmodern}\MessageBreak
890                             \space\space\protect\usepackage{lwarp}%
891                         }
892                     }
893                     }% cm-super not installed
894                 }{}% f@family
895 \fi

```

## 25 Upright quotes

In pdfTeX, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```
896 \ifPDFTeX
897 \RequirePackage{upquote}
898 \fi
899
900 \ifpdfTeX
901     \RequirePackage{upquote}
902 \fi
```

## 26 Avoid bad font combinations

For XeLaTeX and LuaLaTeX, certain font combinations cause problems with `lwarp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```
903 \ifxetexorluatex
904     \AtBeginDocument{
905         \@ifpackageloaded{kpfonts}{
906             \PackageError{lwarp}{%
907                 {%
908                     When using XeLaTeX or LuaLaTeX, \MessageBreak
909                     use kpfonts-otf instead of kpfonts%
910                 }%
911                 {%
912                     Replace: \protect\usepackage{kpfonts}\MessageBreak
913                     with: \protect\usepackage{kpfonts-otf}%
914                 }%
915             }{}%
916         }%
917 \fi
```

## 27 Miscellaneous tools

### 27.1 Variables

```
918 \newlength{\LWR@templengthone}
919 \newlength{\LWR@templengthtwo}
920 \newlength{\LWR@templengththree}
921 \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.

```
922 \newcommand*\LWR@providelength[1]{%
923     \ifdeflength{#1}{}{\newlength{#1}}%
924 }
```

\LWR@convertto {*dest unit*} {*length*}

Prints a length in the given units, without printing the unit itself.

```
925 \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.

```
926 \newcommand*{\LWR@printpercentlength}[2]{%
927     \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
928     \arabic{LWR@tempcountone}%
929 }
```

## 27.3 Counters

\defaddtocounter {*name*} {*value*}

Locally add to a counter.

```
930 \providetcommand*{\defaddtocounter}[2]{%
931     \defcounter{#1}{\value{#1}+#2}%
932 }
```

## 27.4 Patching

\LWR@patcherror {*packagename*} {*macroname*}

Prints an error if could not patch a macro.

```
933 \newcommand*{\LWR@patcherror}[2]{%
934     \PackageError{lwarp}%
935     {%
936         Unable to patch package #1, \MessageBreak
937         macro \LWRbackslash #2.\MessageBreak
938         Lwarp or #1 may need to be updated%
939     }%
940     {Please contact the maintainer of the Lwarp package.}%
941 }
```

## 27.5 Chinese text isolation

\LWR@isolate {*text*} 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.

```

942 \newcommand{\LWR@isolate}[1]{#1}%
943
944 \@ifpackageloaded{ctexpatch}{%
945     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
946 }{}%
947
948 \@ifpackageloaded{xeCJK}{%
949     \renewcommand{\LWR@isolate}[1]{\null#1\null}%
950 }{}%
```

\LWR@disablepinyin Disable *xpinyin* during file, sidetoc, and footnote generation. Set by *xpinyin*.

```
951 \newcommand*\LWR@disablepinyin{}
```

## 27.6 Inserting vertical space

\LWR@forceemptyline Extra vertical space in the HTML output. Use after \LWR@stopars.

```

952 \newcommand*\LWR@forceemptyline{%
953     \LWR@origrule{0pt}{1\baselineskip}%
954     \LWR@orignewline%
955 }
```

## 27.7 Argument selection

\LWR@firstoffive {*first*} {*second*} {*third*} {*fourth*} {*fifth*}

\LWR@secondoffive {*first*} {*second*} {*third*} {*fourth*} {*fifth*}

\LWR@thirdoffive {*first*} {*second*} {*third*} {*fourth*} {*fifth*}

\LWR@fourthoffive {*first*} {*second*} {*third*} {*fourth*} {*fifth*}

\LWR@fifthoffive {*first*} {*second*} {*third*} {*fourth*} {*fifth*}

Expands to the nth of the five arguments. Used for extra cross referencing.

```

956 \long\def\LWR@firstoffive#1#2#3#4#5{#1}%
957 \long\def\LWR@secondoffive#1#2#3#4#5{#2}%
958 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}%
959 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}%
960 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

## 27.8 Inside boxes

Greater than zero if currently inside a TeX box, thus should not use `\LWR@orignewpage`. See section 13.2.

```
961 \newcounter{LWR@texboxdepth}
962 \setcounter{LWR@texboxdepth}{0}
```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a TeX box.

```
963 \newcommand*{\LWR@maybe@orignewpage}{%
964     \LWR@traceinfo{LWR@maybe@orignewpage}%
965     \ifnumgreater{\value{LWR@texboxdepth}}{0}%
966         {}%
967         {\LWR@orignewpage}%
968     \LWR@traceinfo{LWR@maybe@orignewpage done}%
969 }
```

## 27.9 Global boxes

`\LWR@gsavebox`  $\{\langle\text{macroname}\rangle\} \{\langle\text{contents}\rangle\}$

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
970 \DeclareRobustCommand{\LWR@gsavebox}[1]{%
971     \@ifnextchar(%)
972         {\LWR@gsavepicbox#1}{\@ifnextchar[{\LWR@gsavebox#1}{\LWR@gsbox#1}}%
973 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
974     \color@setgroup#2\color@endgroup}}
975 \def\LWR@gsavebox#1[#2]{%
976     \@ifnextchar[{\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}}
977 \long\def\LWR@igsavebox#1[#2][#3]{%
978     \LWR@gsbox#1{\@imakebox[#2][#3]{#4}}}
979 \def\LWR@gsavepicbox#1(#2,#3){%
980     \@ifnextchar[%]
981         {\LWR@@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[]}}
982 \long\def\LWR@igsavepicbox#1(#2,#3)[#4]{%
983     \LWR@gsbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}
```

Env `\LWR@glrbox`  $\{\langle\text{macroname}\rangle\}$

```
984 \def\LWR@glrbox#1{%
985     \edef\reserved@a{%
986         \endgroup
987         \global\setbox#1\hbox{%
988             \begingroup\aftergroup}%
989             \def\noexpand\@currenvir{\@currenvir}%
990             \def\noexpand\@currenvline{\on@line}%
991         \reserved@a
992         \endpfalse}
```

```

993     \color@setgroup
994         \ignorespaces}
995 \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>

```

996 \newcommand*{\macro{csname}}[1]{%
997   \ifcat\relax\noexpand#1%
998     \expandafter\expandafter\expandafter@gobble\expandafter\string
999   \fi
1000 #1%
1001 }

```

## 27.11 Title case

\LWR{texttitlecase}

```

1002 \ExplSyntaxOn
1003 \newcommand*{\LWR{texttitlecase}}[1]{%
1004   \text_titlecase:n{#1}%
1005 }
1006 \ExplSyntaxOff

```

## 27.12 LetLtxMacros

\LWR@LetLtxMacros {⟨newcsname⟩} {⟨oldcsname⟩}

\LetLtxMacro with cs names.

```

1007 \newcommand*{\LWR@LetLtxMacros}[2]{%
1008   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1009   \csname#2\endcsname%
1010 }

```

## 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.

```
1011 \newcommand*{\LWR@absorbstar}[1]{%
1012   \LWR@LetLtxMacros{\LWR@origns@#1}{#1}%
1013   \csdef{#1}{\@ifstar{\csuse{\LWR@origns@#1}}{\csuse{\LWR@origns@#1}}}
1014   \expandafter\robustify\csname #1\endcsname
1015 }
```

## 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:

```
1016 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
1017 \catcode`\$=12
1018 \def\LWRdollar{\$}
1019 \catcode`\$=3
```

The literal & character:

```
1020 \catcode`\&=12
1021 \def\LWRamp{\&}
1022 \catcode`\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
1023 \catcode`\&=0
1024 &catcode`\&=12
1025 &def&\LWRbackslash{\}
1026 &catcode`\&=0
1027 \catcode`\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
1028 \catcode`\&=1
1029 \catcode`\{=12
1030 \def\LWRleftbrace&{
1031 \catcode`\{=1
1032 \catcode`\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
1033 \catcode`\&=2
1034 \catcode`\}=12
1035 \def\LWRrightbrace}&
1036 \catcode`\}=2
1037 \catcode`\&=4
```

The literal # character:

```
1038 \catcode`\#=12
1039 \def\LWRhash{#}
1040 \catcode`\#=6
```

\LWRopquote The operating system's quote mark, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
1041 \def\LWRopquote{'}
```

\LWRopseq The operating system's sequential execution command, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
1042 \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.

```
1043 \newbool{usingOSWindows}
1044 \boolfalse{usingOSWindows}
```

## 28.3 UNIX, LINUX, and MAC OS

\OSPathSymbol Symbol used to separate directories in a path.

```
1045 \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.

```
1046 \newcommand{\LWR@setOSWindows}
1047 {
1048 \booltrue{usingOSWindows}
1049 \renewcommand{\OSPathSymbol}{\backslash}
1050 \def\LWRopquote{"}
1051 \def\LWRopseq{\space\WRamp\space\space}
1052 }
```

Test for windows during compile. The user may also specify `OSWindows` package option in case this test fails.

```
1053 \ifwindows
1054 \LWR@setOSWindows
1055 \fi
```

## 29 Package options

Pkg kvoptions Allows key/value package options.

```
1056 \RequirePackage{kvoptions}
1057 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

\lwarpsetup A user interface to set the keys:

```
1058 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint

Bool warpingHTML  
Bool mathjax Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

Bool LWR@origmathjax

LWR@origmathjax remembers the original setting to be restored by \displaymathnormal.

```
1059 \newbool{warpingprint}
1060 \newbool{warpingHTML}
1061 \newbool{mathjax}
1062 \newbool{LWR@origmathjax}
```

**defaults** The default is print output, and SVG math if the user chose HTML output.

```
1063 \booltrue{warpingprint}%
1064 \boolfalse{warpingHTML}%
1065 \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.

```
1066 \DeclareVoidOption{warpprint}{%
1067     \PackageInfo{l warp}{Using option 'warpprint'}%
1068     \booltrue{warpingprint}%
1069     \boolfalse{warpingHTML}%
1070 }
```

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.

```
1071 \DeclareVoidOption{warpHTML}{%
1072     \PackageInfo{l warp}{Using option 'warpHTML'}%
1073     \booltrue{warpingHTML}%
1074     \boolfalse{warpingprint}%
1075 }
```

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.

```
1076 \DeclareVoidOption{mathsvg}{%
1077     \PackageInfo{l warp}{Using option 'mathsvg'}%
1078     \boolfalse{mathjax}%
1079     \boolfalse{LWR@origmathjax}%
1080 }
```

Opt mathjax Option mathjax selects MATHJAX math display: If the mathjax option is given, boolean mathjax is true, may be used for \ifbool tests.

```
1081 \DeclareVoidOption{mathjax}{%
1082     \PackageInfo{l warp}{Using option 'mathjax'}%
1083     \booltrue{mathjax}%
1084     \booltrue{LWR@origmathjax}%
1085 }
```

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.

```
1086 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `ImagesDirectory` Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.  
 Default: `\jobname-images`

```
1087 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

Opt `ImagesName` Option `ImagesName` sets the prefix to use for the `lateximage` images.  
 Default: `image-`

```
1088 \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`

```
1089 \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`

```
1090 \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`

```
1091 \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`

```
1092 \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](#).

```
1093 \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`

```
1094 \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`:

```
1095 \newbool{LWR@creatinglwarpmk}
1096 \boolfalse{LWR@creatinglwarpmk}
1097
1098 \DeclareVoidOption{lwarpmk}{

1099   \PackageInfo{lwarf}{Using option 'lwarpmk'}
1100   \booltrue{LWR@creatinglwarpmk}
1101 }
```

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.

```
1102 \DeclareVoidOption{OSWindows}{  
1103     \PackageInfo{lwarp}{Using option 'OSWindows'}  
1104     \LWR@setOSWindows  
1105 }
```

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.

```
1106 \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.

```
1107 \DeclareStringOption[]\{HTMLFilename\}
```

Opt PrintLatexCmd The shell commands to use to compile the print document.  
**Default:** `<automatic>`

```
1108 \DeclareStringOption[]\{PrintLatexCmd\}
```

Opt HTMLLatexCmd The shell commands to use to compile the HTML document.  
**Default:** `<automatic>`

```
1109 \DeclareStringOption[]\{HTMLLatexCmd\}
```

Opt PrintIndexCmd The shell commands to use to compile the print indexes.  
**Default:** `<empty>`

```
1110 \DeclareStringOption[]\{PrintIndexCmd\}
```

Opt HTMLIndexCmd The shell commands to use to compile the HTML indexes.  
**Default:** `<empty>`

```
1111 \DeclareStringOption[]\{HTMLIndexCmd\}
```

Opt LatexmkIndexCmd The shell commands to be used by *latexmk* to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by *latexmk*.

```
1112 \DeclareStringOption[]\{LatexmkIndexCmd\}
```

Opt makeindex Tells **lwarp** to use *makeindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *makeindex* with a single index file.

```
1113 \DeclareBoolOption[false]\{makeindex\}
```

Opt `xindy` Tells `lwarf` to use `xindy` for index generation. When `lwarfmk.conf` and `*.lwarfmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `xindy` with a single index file.

```
1114 \DeclareBoolOption[false]{xindy}
```

Opt `xindex` Tells `lwarf` to use `xindex` for index generation. When `lwarfmk.conf` and `*.lwarfmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `xindex` with a single index file.

```
1115 \DeclareBoolOption[false]{xindex}
```

Opt `IndexRef` Tells `lwarf` how to display the index entries in `HTMLoutput`. See section 7.5.

`Default: cref`

```
1116 \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: makeglossaries`

```
1117 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

Opt `latexmk` Option `latexmk` tells `lwarfmk` to use `latexmk` when compiling documents.

```
1118 \DeclareBoolOption[false]{latexmk}
```

Opt `dvips` Option `dvips` tells `lwarfmk` to use `dvips` when compiling DVI `latex` documents.

```
1119 \DeclareBoolOption[false]{dvips}
```

Opt `dvipdfm` Option `dvipdfm` tells `lwarfmk` to use `dvipdfm` when compiling DVI `latex` documents.

```
1120 \DeclareBoolOption[false]{dvipdfm}
```

Opt `dvipdfmx` Option `dvipdfmx` tells `lwarfmk` to use `dvipdfmx` when compiling DVI `latex` documents.

```
1121 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
1122 \ProcessKeyvalOptions*\relax
```

## 29.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1123 \providecommand*\{\BaseJobname\}{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```

1124 \ifcseempty{\LWR@HomeHTMLFilename}{
1125     \newcommand*{\HomeHTMLFilename}{\BaseJobname}
1126 }{
1127     \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1128 }
1129
1130 \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.

```

1131 \newcommand*{\LWR@sanitized}{}}

\LWR@sanitize {<text>}

```

Sanitizes the text and returns the result in \LWR@sanitized.

```

1132 \newcommand*{\LWR@sanitize}[1]{%
1133 \edef\LWR@sanitized{\#1}%
1134 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1135 }

```

Sanitize some string options to neutralize underscores.

```

1136 \LWR@sanitize{\LWR@BaseJobname}
1137 \edef\LWR@BaseJobname{\LWR@sanitized}
1138
1139 \LWR@sanitize{\LWR@ImagesDirectory}
1140 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1141
1142 \LWR@sanitize{\LWR@ImagesName}
1143 \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.

```

1144 \ifdempty{\LWR@PrintIndexCmd}%
1145     \renewcommand{\LWR@PrintIndexCmd}{%
1146         makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1147     }
1148     \ifbool{\LWR@xindy}{%
1149         \renewcommand{\LWR@PrintIndexCmd}{%
1150             xindy
1151             -M \LWR@xindyStyle \space
1152             -L \LWR@xindyLanguage \space
1153             -C \LWR@xindyCodepage \space
1154             \jobname.idx%
1155     }

```

```
1156    }{}
1157    \ifbool{LWR@xindex}{
1158        \ifdefvoid{\LWR@xindexConfig}{%
1159            \renewcommand{\LWR@PrintIndexCmd}{%
1160                xindex
1161                \jobname.idx%
1162            }
1163        }{
1164            \renewcommand{\LWR@PrintIndexCmd}{%
1165                xindex
1166                -c \LWR@xindexConfig \space
1167                \jobname.idx%
1168            }
1169        }
1170    }{}
1171 }{}
1172
1173 \ifdefempty{\LWR@HTMLIndexCmd}{%
1174     \renewcommand{\LWR@HTMLIndexCmd}{%
1175         makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1176     }
1177     \ifbool{LWR@xindy} {
1178         \renewcommand{\LWR@HTMLIndexCmd}{%
1179             xindy
1180             -M \LWR@xindyStyle \space
1181             -L \LWR@xindyLanguage \space
1182             -C \LWR@xindyCodepage \space
1183             \jobname_html.idx%
1184         }
1185     }{}
1186     \ifbool{LWR@xindex} {
1187         \ifdefvoid{\LWR@xindexConfig}{%
1188             \renewcommand{\LWR@HTMLIndexCmd}{%
1189                 xindex
1190                 \jobname_html.idx%
1191             }
1192         }{
1193             \renewcommand{\LWR@HTMLIndexCmd}{%
1194                 xindex
1195                 -c \LWR@xindexConfig \space
1196                 \jobname_html.idx%
1197             }
1198         }
1199     }{}
1200 }{}
1201
1202 \ifdefempty{\LWR@LatexmkIndexCmd}{%
1203     \renewcommand{\LWR@LatexmkIndexCmd}{%
1204         makeindex -s \LWR@makeindexStyle%
1205     }
1206     \ifbool{LWR@xindy} {
1207         \renewcommand{\LWR@LatexmkIndexCmd}{%
1208             xindy
1209             -M \LWR@xindyStyle \space
1210             -L \LWR@xindyLanguage \space
1211         }
1212     }{}%
```

```

1211           -C \LWR@xindyCodepage%
1212       }
1213   }{}
1214 \ifbool{\LWR@xindex}{%
1215     \ifdefvoid{\LWR@xindexConfig}{%
1216         \renewcommand{\LWR@LatexmkIndexCmd}{%
1217             xindex
1218         }%
1219     }{%
1220         \renewcommand{\LWR@LatexmkIndexCmd}{%
1221             xindex
1222             -c \LWR@xindexConfig
1223         }%
1224     }%
1225 }{}%
1226 }{}%

```

## 29.2 Conditional compilation

\warpprintonly {*contents*}

Only process the contents if producing printed output.

```
1227 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

\warpHTMLonly {*contents*}

Only process the contents if producing HTML output.

```
1228 \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.

```
1229 \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.

```

1230 \def\LWR@includecomment
1231 #1#2{\message{Lwarp: Including comment '#1'}%
1232 \csarg\def{After#1Comment}{%
1233 \CloseAndInputCutFile%
1234 \csundef{\LWR@#1commentused}}%

```

```

1235      }
1236      \csarg\def{\#1}{%
1237          \endgroup
1238          \ifcsdef{LWR@#1commentused}%
1239              \PackageError{lwarf}%
1240                  {Nested #1 environment}%
1241                  {%
1242                      Environment #1 cannot be nested.\MessageBreak
1243                      This can happen when a package is loaded
1244                      from inside a\MessageBreak
1245                      #1 environment.%}
1246                  }%
1247          }{\relax}
1248          \csdef{LWR@#1commentused}{}%
1249          \message{Including '#1' comment.}%
1250          \def\CommentCutFile{comment_#2.cut}%
1251          \SetUpCutFile
1252          \ProcessComment{\#1}%
1253      }%
1254      \CommentEndDef{\#1}%
1255  }
1256
1257 \def\LWR@excludedcomment
1258 #1#2{\message{Lwarp: Excluding comment '#1'}%
1259   \csarg\def{\#1}{%
1260       \endgroup
1261       \message{Excluding '#1' comment.}%
1262       \begingroup
1263           \def\CommentCutFile{comment_#2.cut}%
1264           \def\ProcessCutFile{}%
1265           \def\ThisComment####1{}%
1266           \ProcessComment{\#1}%
1267       }%
1268   \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}%
1269   \CommentEndDef{\#1}%

```

Env warpall Anything in the warpall environment will be generated for print or HTML outputs.

```
1270 \LWR@includedcomment{warpall}{all}
```

Env warpHTML For HTML output:

```

1271 \ifbool{warpingHTML}%
1272     {\LWR@includedcomment{warpHTML}{html}}%
1273     {\LWR@excludedcomment{warpHTML}{html}}%
```

Env warpprint Anything in the warpprint environment will be generated for print output only.

```

1274 \ifbool{warpingprint}%
1275     {\LWR@includedcomment{warpprint}{print}}%
1276     {\LWR@excludedcomment{warpprint}{print}}%
```

Env `warpMathJax` Only if MATHJAX is being used along with HTML.

```
1277 \begin{warpprint}
1278 \LWR@excludecomment{warpMathJax}{mathjax}
1279 \end{warpprint}
1280
1281 \begin{warpHTML}
1282 \ifbool{mathjax}
1283   {\LWR@includecomment{warpMathJax}{mathjax}}
1284   {\LWR@excludecomment{warpMathJax}{mathjax}}
1285 \end{warpHTML}
```

Env `LWRcreatelwarpmk` Optionally generate a local copy of *lwarpmk*. Default to no.

```
1286 \ifbool{LWR@creatinglwarpmk}
1287   {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1288   {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}
```

## 30 Required packages

These packages are automatically loaded by l warp when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1289 `\begin{warpHTML}`

Pkg `fontspec` Load `fontspec` if necessary:

```
1290 \ifxetexorluatex
1291 \@ifpackageloaded{fontspec}{}{
1292   \usepackage[no-math]{fontspec}
1293 }
```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```
1294 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1295 \defaultfontfeatures[\sfamily]{Ligatures={NoCommon,TeX}}
1296 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1297 \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 LATEX dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```
1298 \RequirePackage {microtype}
1299
```

```

1300 \microtypesetup{
1301     protrusion=false,
1302     expansion=false,
1303     tracking=false,
1304     kerning=false,
1305     spacing=false}
1306 %     \begin{macrocode}
1307 %
1308 % Disable ligatures for typewriter fonts.
1309 % The comma was causing issues with \brand{MathJax} and \cs{,} followed by a comma.
1310 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1311 % are now allowed.
1312 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1313 % ^^^A \DisableLigatures[{},f,q,t,T,Q]{encoding = *,family = *}% previous
1314 %     \begin{macrocode}
1315 \DisableLigatures{encoding = *,family = tt*}

1316 \fi

1317 \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: 1318 \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 `lwarp \AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```

1319 \@ifpackageloaded{geometry}
1320 {}{
1321     \RequirePackage[
1322         reset,
1323         paperwidth=\paperwidth,
1324         paperheight=\paperheight,
1325         textwidth=\textwidth,
1326         textheight=\textheight,
1327         left=\oddsidemargin,
1328         top=\topmargin,
1329         marginparsep=\marginparsep,
1330         marginparwidth=\marginparwidth,
1331     ]{geometry}
1332 }

```

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.

```
1333 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1334 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}
1335 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1336 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1337 \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.

```
1338 \newbool{LWR@allowanothergeometry}
1339 \booltrue{LWR@allowanothergeometry}
```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```
1340 \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`.

```
1341 \LWR@origsavegeometry{\LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```
1342 \newlength{\LWR@userspaperwidth}
1343 \setlength{\LWR@userspaperwidth}{\paperwidth}
1344
1345 \newlength{\LWR@userspaperheight}
1346 \setlength{\LWR@userspaperheight}{\paperheight}
1347
1348 \newlength{\LWR@usermarginparwidth}
1349 \setlength{\LWR@usermarginparwidth}{\marginparwidth}
1350
1351 \newlength{\LWR@userstextwidth}
1352 \setlength{\LWR@userstextwidth}{\textwidth}
1353
1354 \newlength{\LWR@userstextheight}
1355 \setlength{\LWR@userstextheight}{\textheight}
```

For `l warp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```
1356 \LWR@origgeometry{  
1357     reset,  
1358     paperheight=190in,  
1359     paperwidth=20in,  
1360     left=2in,  
1361     right=6in,  
1362     top=1in,  
1363     bottom=1in,  
1364     heightrounded,%  
1365 }
```

The `lwarp` page geometry is saved for future restore:

```
1366 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1367 \boolfalse{\LWR@allowanothergometry} %
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```
1368 \setlength{\textheight}{0.8\paperheight}  
1369 \setlength{\textwidth}{0.7\paperwidth}  
1370  
1371 \@twosidefalse  
1372 \mparswitchfalse  
1373 }% \AtEndPreamble  
1374  
1375 \end{warpHTML}
```

**for HTML & PRINT:** 1376 `\begin{warpall}`

Pkg `xparse`

LATEX3 command argument parsing

```
1377 \RequirePackage{xparse}
```

Pkg `calc`

```
1378 \RequirePackage{calc}
```

```
1379 \end{warpall}
```

**for HTML output:** 1380 `\begin{warpHTML}`

Pkg `expl3`

LATEX3 programming

```
1381 \RequirePackage{expl3}
```

Pkg `getttitlestring`

Used to emulate \nameref.

```
1382 \RequirePackage{gettitlestring}
```

Pkg everyhook

**everyhook** is used to patch paragraph handling.

```
1383 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}
1384
1385 \RequirePackage{everyhook}
1386 \end{warpHTML}
```

**for HTML & PRINT:** 1387 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of L<sup>A</sup>T<sub>E</sub>X (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 L<sup>A</sup>T<sub>E</sub>X kernel is used, the original **filecontents** package is used, but it is patched to throw away the new optional argument.

```
1388 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1389
1390     \RequirePackage{filecontents}
1391
1392     \LetLtxMacro{\LWR@orig@filec@ntents}{\filec@ntents}
1393
1394     \@ifpackagelater{filecontents}{2011/10/08}
1395     {
```

For a newer version of the **filecontents** package, simply discard the optional argument.

```
1396         \renewcommand*{\filec@ntents}[1][]{{\LWR@orig@filec@ntents}}
1397     }
1398     {% 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>

```
1399         \newwrite\fcwrite
1400         \renewcommand*{\filec@ntents}[1][]{{%
1401             \def\chardef##1\write{\let\reserved@c\fcwrite}%
1402             \LWR@orig@filec@ntents%
1403         }%
1404     }%
1405
1406 }% older kernel
1407 {% newer kernel
```

For a newer kernel with a `filecontents` environment which accepts the optional `overwrite` argument, use the environment as-is.

1408 }% newer kernel, `filecontents` env accepts optional args, do not load package

1409 `\end{warpall}`

**for HTML output:** 1410 `\begin{warpHTML}`

Pkg `xifthen`

1411 `\RequirePackage{xifthen}`

Pkg `verbatim`

1412 `\RequirePackage{verbatim}`

Pkg `refcount`

Provides `\setcounterref`, `\setcounterpageref`, etc.

1413 `\RequirePackage{refcount}`

Pkg `newfloat`

1414 `\RequirePackage{newfloat}`

1415 `\end{warpHTML}`

**for HTML & PRINT:** 1416 `\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** 1417 `\RequirePackage{xstring}[2019/02/01]`

Pkg `environ` Used to encapsulate math environments for re-use in HTML `<alt>` text.

1418 `\RequirePackage{environ}`

1419 `\end{warpall}`

**for HTML output:** 1420 `\begin{warpHTML}`

Pkg `printlen` Used to convert lengths for image width/height options.

1421 `\RequirePackage{printlen}`

`\LWR@printlength {⟨length⟩}`

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```

1422 \newrobustcmd*\{LWR@printlength}{1}{%
1423   \begingroup%
1424   \uselengthunit{PT}%
1425   \renewcommand*\{\unitspace}{()}%
1426   \ifdimless{#1}{10pt}{%
1427     \printlength{#1}%
1428   }{%
1429     \rndprintlength{#1}%
1430   }%
1431   \endgroup%
1432 }
1433 \end{warpHTML}

```

**for PRINT output:** 1434 \begin{warpprint}

Pkg varwidth Used for print-mode lateximage.

```

1435 \RequirePackage{varwidth}
1436 \end{warpprint}

```

## 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:** 1437 \begin{warpall}

Remember the original \RequirePackage:

```

1438 \LetLtxMacro{\LWR@origRequirePackage}{\RequirePackage}
1439 \LetLtxMacro{\LWR@origRequirePackageWithOptions}{\RequirePackageWithOptions}

```

\LWR@requirepackagenames Stores the list of required package names.

```
1440 \newcommand*\{\LWR@requirepackagenames}{}{}
```

\LWR@parsedrequirepackagenames Stores the parsed list of required package names after spaces are removed and lwarp- is prepended.

```
1441 \newcommand*\{\LWR@parsedrequirepackagenames}{}{}
```

\LWR@nullifycomment Remove the preexisting comment environment. Certain packages define it for their own use.

```

1442 \newcommand*{\LWR@nullifycomment}{%
1443   \PackageInfo{l warp}{%
1444     Nullifying the comment environment before loading \LWR@strresulttwo,}%
1445   \let\comment\relax%
1446   \let\endcomment\relax%
1447 }

```

\LWR@findword [*1: separator*] {*2: list*} {*3: index*} [*4: destination*]

Note that argument 4 is passed directly to \StrBetween.

```

1448 \newcommand*{\LWR@findword}[3][,]{%
1449   \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1450 }

```

\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:

```
1451 \LetLtxMacro{\LWR@checkloadnever}{\LWR@afterloadnever}
```

\LWR@checkloadfilename {*filename*} Checks if this filename should be loaded after l warp, or never at all.

```
1452 \newcommand*{\LWR@checkloadfilename}[1]{%
```

Remember the package name to compare with, to be used by \LWR@checkloadnever and \LWR@checkloadbefore.

```
1453 \edef{\LWR@tempone}{#1}%
```

Check against the list of packages which should never be loaded:

```
1454 \LWR@checkloadnevers
```

The following should only be loaded before l warp:

```

1455 \LWR@checkloadbefore{ctex}
1456 \LWR@checkloadbefore{fontspec}
1457 \LWR@checkloadbefore{inputenc}
1458 \LWR@checkloadbefore{inputenx}
1459 \LWR@checkloadbefore{nfssext-cfr}
1460 \LWR@checkloadbefore{fontaxes}
1461 \LWR@checkloadbefore{kotex}
1462 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1463 \LWR@checkloadbefore{luatexja}
1464 \LWR@checkloadbefore{luatexja-fontspec}
1465 \LWR@checkloadbefore{luatexko}
1466 \LWR@checkloadbefore{morewrites}
1467 \LWR@checkloadbefore{newclude}
1468 \LWR@checkloadbefore{newunicodechar}
1469 \LWR@checkloadbefore{plex}

```

```

1470   \LWR@checkloadbefore{xeCJK}
1471   \LWR@checkloadbefore{xetexko}
1472   \LWR@checkloadbefore{zxjatype}
1473 }

```

\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.

```
1474 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the *index*'th package name from the list:

```
1475 \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.

```
1476 \StrSubstitute[100]{\LWR@strresult}{ }{}[\LWR@strresulttwo]%
```

See if the package name was found:

```

1477 \IfStrEq{\LWR@strresulttwo}{}%
1478 {}% no filename
1479 {}% 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.

```

1480   \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1481   \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%

```

If HTML, check if the package should be loaded before lwarp, or never at all:

```
1482   \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

If HTML, and if found, and if an lwarp-equivalent name exists, use lwarp-\* instead.

```

1483   \ifboolexpr{
1484     bool{warpingHTML} and
1485     test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1486   }%
1487   {% lwarp-* file found
1488     \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1489       \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1490     }{%
1491       \edef\LWR@parsedrequirepackagenames{%
1492         \LWR@parsedrequirepackagenames, lwarp-\LWR@strresulttwo}%
1493     }%

```

```

1494      }%
1495      }%
1496      {%

```

Otherwise, use the current package name.

```

1497      \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1498          \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1499      }{%
1500          \edef\LWR@parsedrequirepackagenames{%
1501              \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1502          }%
1503      }%
1504      }% no l warp-* file
1505 }% yes filename
1506 }

```

\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.

```
1507 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:<sup>17</sup>

```

1508 \renewcommand*\LWR@requirepackagenames{\#2}%
1509 \renewcommand*\LWR@parsedrequirepackagenames{}%
1510 \LWR@lookforpackagename{1}%
1511 \LWR@lookforpackagename{2}%
1512 \LWR@lookforpackagename{3}%
1513 \LWR@lookforpackagename{4}%
1514 \LWR@lookforpackagename{5}%
1515 \LWR@lookforpackagename{6}%
1516 \LWR@lookforpackagename{7}%
1517 \LWR@lookforpackagename{8}%
1518 \LWR@lookforpackagename{9}%
1519 \LWR@lookforpackagename{10}%
1520 \LWR@lookforpackagename{11}%
1521 \LWR@lookforpackagename{12}%
1522 \LWR@lookforpackagename{13}%
1523 \LWR@lookforpackagename{14}%
1524 \LWR@lookforpackagename{15}%
1525 \LWR@lookforpackagename{16}%
1526 \LWR@lookforpackagename{17}%
1527 \LWR@lookforpackagename{18}%
1528 \LWR@lookforpackagename{19}%
1529 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

---

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

```

1530 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1531   {%
1532     \PackageError{lwarf}{%
1533       You used: \MessageBreak
1534       \protect\usepackage[#1]{#2}\MessageBreak
1535       Braces in the package options will fail with Lwarf.\MessageBreak
1536       Instead, use: \MessageBreak
1537       \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1538       \protect\usepackage{#2}\MessageBreak
1539       near the line number given below.\MessageBreak
1540       Enter 'h' for more info%
1541     }%
1542   {%
1543     See the Lwarf manual troubleshooting index entry for \MessageBreak
1544     'package, options with braces'%
1545   }%
1546 }%
1547 {}% no brace

```

\RequirePackage depending on the options and version:

```

1548 \IfValueTF{#1}%
1549 {%
1550   % options given
1551   \IfValueTF{#3}%
1552     {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]}%
1553   }%
1554 {%
1555   % no options given
1556   \IfValueTF{#3}%
1557     {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1558   }%
1559 }
1560 \LetLtxMacro\usepackage\RequirePackage
1561 \@onlypreamble\RequirePackage
1562 \@onlypreamble\usepackage
1563 \end{warpall}

```

**for HTML output:** 1564 \begin{warpHTML}

\LWR@ProvidesPackagePass {\langle pkgname \rangle} [⟨version⟩]

Uses the original package, including options.

```

1565 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{%
1566   \PackageInfo{lwarf}{%
1567     Using package '#1', \MessageBreak
1568     and adding lwarf modifications, including options, \MessageBreak%
1569   }%
1570   \IfValueTF{#2}{%
1571     {\ProvidesPackage{lwarf-#1}[#2]}%
1572     {\ProvidesPackage{lwarf-#1}}%
1573   \DeclareOption*{%

```

```

1574           \PassOptionsToPackage{\CurrentOption}{#1}%
1575     }%
1576     \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.

```

1577   @ifpackageloaded{#1}{%
1578     \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1579     \IfValueTF{#2}{%
1580       {%
1581         \expandafter\LWR@origRequirePackage%
1582         \expandafter[\LWR@tempone]{#1}[#2]%
1583       }%
1584       {%
1585         \expandafter\LWR@origRequirePackage%
1586         \expandafter[\LWR@tempone]{#1}%
1587       }%
1588     }{%
1589       \IfValueTF{#2}{%
1590         {\LWR@origRequirePackage{#1}[#2]}%
1591         {\LWR@origRequirePackage{#1}}%
1592     }%
}

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1593   \DeclareOption*{}%
1594   \ProcessOptions\relax%
1595 }

```

`\LWR@ProvidesPackageDropA {<name>} {<date or -NoValue->}`

Declares the package. Factored for reuse.

```

1596 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1597   \PackageInfo{lwarp}{%
1598     Replacing package ‘#1’ with the lwarp version,\MessageBreak
1599     and discarding options,%
1600   }%
1601   \IfValueTF{#2}{%
1602     {\ProvidesPackage{lwarp-#1}[#2]}%
1603     {\ProvidesPackage{lwarp-#1}}%
1604   }
}

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1605 \newcommand*{\LWR@ProvidesPackageDropB}{%
}

```

---

```

1606 % \ProcessOptions\relax% original LaTeX code
1607 \let\ds@\empty%           from the original \ProcessOptions
1608 \edef\@curroptions{}%    lwarf modification to \ProcessOptions
1609 \@process@ptions\relax% from the original \ProcessOptions
1610 }

```

\LWR@ProvidesPackageDrop {*<pkgname>*} [*version*]

Ignores the original package and uses lwarf's version instead. Drops/discards all options.

```
1611 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1612 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1613 \DeclareOption*{}
```

Process the options:

```
1614 \LWR@ProvidesPackageDropB
1615 }
```

```
1616 \end{warpHTML}
```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1617 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1618 \newwrite\LWR@quickfile%
```

```
1619 \end{warpall}
```

**for HTML output:** 1620 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1621 \newwrite\LWR@lateximagesfile
```

```
1622 \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 L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1623 `\begin{warpHTML}`

`\@include {<filename>}` Modified to load \_html\_inc files.

(Below, `\clearpage` caused missing text, and was changed to `\newpage`.)

```
1624 \def\@include#1 {%
1625   \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1626   \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1627   \immediate\closeout\LWR@quickfile% lwarp
1628 \LWR@maybe@orignewpage% changed from clearpage
1629 \if@files w
1630   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1631 \fi
1632 \@tempswat r u e
1633 \if@partsw
1634   \tempswaf a l s e
1635   \edef\reserved@b{#1}%
1636   \for\reserved@a:=\partlist\do
1637     {\ifx\reserved@a\reserved@b\@tempswat r ue\fi}%
1638 \fi
1639 \if@tempswa
1640   \let\auxout\@partaux
1641   \if@files w
1642     \immediate\openout\@partaux #1_html_inc.aux % changed
1643     \immediate\write\@partaux{\relax}%
1644   \fi
1645   \input{#1_html_inc.tex}% changed
1646   \LWR@maybe@orignewpage% changed from clearpage
1647   \writeckpt{#1}%
1648   \if@files w
1649     \immediate\closeout\@partaux
1650   \fi
1651 \else
1652   \deadcycles\z@
1653   \nameuse{cp@#1}%
1654 \fi
1655 \let\auxout\@mainaux%
1656 }

1657 \end{warpHTML}
```

## 34 Copying a file

**for HTML output:** 1658 \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.

```

1659 \newwrite\LWR@copyoutfile    % open the file to write to
1660 \newread\LWR@copyinfile     % open the file to read from
1661
1662 \newcommand*{\LWR@copyfile}[2]{%
1663     \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1664
1665     \immediate\openout\LWR@copyoutfile=#2
1666     \openin\LWR@copyinfile=#1
1667     \begingroup\endlinechar=-1
1668     \makeatletter
1669
1670     \LWR@traceinfo{\LWR@copyfile: about to loop}
1671
1672     \loop\unless\ifeof\LWR@copyinfile
1673         \LWR@traceinfo{\LWR@copyfile: one line}
1674         \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1675 %     \LWR@fileline\par                      % print the content into the pdf
1676 % print the content:
1677     \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1678     \repeat
1679     \immediate\closeout\LWR@copyoutfile
1680     \LWR@traceinfo{\LWR@copyfile: done}
1681     \endgroup
1682 }

1683 \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

```
\tracinglwarp
```

**for HTML & PRINT:** 1684 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

---

```
1685 \newbool{LWR@tracingl warp}
```

\tracingl warp Turns on the debug tracing messages.

```
1686 \newcommand{\tracingl warp}{\booltrue{LWR@tracingl warp}}
```

\LWR@traceinfo {⟨text⟩} If tracing is turned on, writes the text to the .log file.

```
1687 \newcommand{\LWR@traceinfo}[1]{%
1688 \ifbool{LWR@tracingl warp}{%
1689 {%
1690   \typeout{*** l warp: #1}%
1691 }%
1692 {}%
1693 }
```

Bool HTMLDebugComments Add comments in HTML about closing <div>s, sections, etc.

**Default:** false

```
1694 \newbool{HTMLDebugComments}
1695 \boolfalse{HTMLDebugComments}
```

If \tracingl warp, show where preamble hooks occur:

```
1696 \AfterEndPreamble{%
1697 \LWR@traceinfo{AfterEndPreamble}%
1698 }%
1699
1700 \AtBeginDocument{%
1701 \LWR@traceinfo{AtBeginDocument}%
1702 }%
```

```
1703 \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 LATEX 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 `lwarp` 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}{...}% NOT xparse!
\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}{...} {...}%
\NewDocumentEnvironment{\LWR@print@name}{...} {...} {...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}%
\newenvironment{name}{\LWR@print@name}{\endLWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}%
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} {...}

\LWR@formatted{name}%
\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:** 1704 `\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`”.

```
1705 \newcommand*{\LWR@formatting}{HTML}
```

`\LWR@formatted@checkname {<name>}`

```
1706 \newcommand*{\LWR@formatted@checkname}[1]{%
1707     \ifcsundef{\LWR@HTML@#1}{%
1708         \PackageError{lwarp}%
1709         {%
1710             \protect\LWR@HTML@#1 is not defined%
1711         }%
1712         {Perhaps it is misspelled.}%
1713     }{\relax}%
1714 }
```

`\LWR@formatted@checkendname {<name>}`

```
1715 \newcommand*{\LWR@formatted@checkendname}[1]{%
1716     \ifcsundef{\endLWR@HTML@#1}{%
1717         \PackageError{lwarp}%
1718         {%
1719             \protect\endLWR@HTML@#1 is not defined%
1720         }%
1721         {Perhaps it is misspelled.}%
1722     }{\relax}%
1723 }
```

---

\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.

```

1724 \newcommand*{\LWR@formatted}[1]{%
1725   \LWR@formatted@checkname{#1}%
1726   \ifcsundef{\LWR@print@#1}{%
1727     \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1728     \csname#1\endcsname%
1729   }{%
1730     \ifcsundef{#1}{%
1731       \expandafter\newrobustcmd\csname #1\endcsname{%
1732         \nameuse{\LWR@\LWR@formatting @#1}%
1733       }%
1734     }{%
1735       \expandafter\renewrobustcmd\csname #1\endcsname{%
1736         \nameuse{\LWR@\LWR@formatting @#1}%
1737       }%
1738     }%
1739   }%
1740 }
```

\LWR@expandableformatted {*macroname*} No backslash in the macro name.

An expandable version of \LWR@formatted.

```

1740 \newcommand*{\LWR@expandableformatted}[1]{%
1741   \LWR@formatted@checkname{#1}%
1742   \ifcsundef{\LWR@print@#1}{%
1743     \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1744     \csname#1\endcsname%
1745   }{%
1746     \ifcsundef{#1}{%
1747       \expandafter\newcommand\csname #1\endcsname{%
1748         \nameuse{\LWR@\LWR@formatting @#1}%
1749       }%
1750     }{%
1751       \expandafter\renewcommand\csname #1\endcsname{%
1752         \nameuse{\LWR@\LWR@formatting @#1}%
1753       }%
1754     }%
1755   }%
1756 }
```

\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.

```

1756 \newcommand*{\LWR@formattedenv}[1]{%
1757   \LWR@formatted@checkname{#1}%
1758   \LWR@formatted@checkendname{#1}%
1759 }
```

```

1759 \ifcsundef{LWR@print@#1}{%
1760     \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1761         \csname#1\endcsname%
1762     \csletcs{endLWR@print@#1}{end#1}%
1763 }{%
1764 \DeclareDocumentEnvironment{#1}{}{%
1765 {%
1766     \nameuse{LWR@\LWR@formatting @#1}%
1767 }%
1768 {%
1769     \nameuse{endLWR@\LWR@formatting @#1}%
1770 }%
1771 }

\LWR@expandableformattedenv {\langle environmentname\rangle}

An expandable version of \LWR@formattingenv.

1772 \newcommand*{\LWR@expandableformattedenv}[1]{%
1773     \LWR@formatted@checkname{#1}%
1774     \LWR@formatted@checkendname{#1}%
1775     \ifcsundef{LWR@print@#1}{%
1776         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1777             \csname#1\endcsname%
1778         \csletcs{endLWR@print@#1}{end#1}%
1779 }{%
1780 \DeclareExpandableDocumentEnvironment{#1}{}{%
1781 {%
1782     \nameuse{LWR@\LWR@formatting @#1}%
1783 }%
1784 {%
1785     \nameuse{endLWR@\LWR@formatting @#1}%
1786 }%
1787 }

1788 \end{warpHTML}

```

## 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:** 1789 \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`

```
1790 \newbool{FormatEPUB}
1791 \boolfalse{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.

```
1792 \newbool{FormatWP}
1793 \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>

```
1794 \newbool{WPMarkFloats}
1795 \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.

```
1796 \newbool{WPMarkMinipages}
1797 \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.*

```
1798 \newbool{WPMarkTOC}
1799 \booltrue{WPMarkTOC}
```

**Bool WPMarkLOFT** While formatting for word processors, adds  
**Default: false**

---

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

---

```
==== 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.*

```
1800 \newbool{WPMarkLOFT}
1801 \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.

```
1802 \newbool{WPMarkMath}
1803 \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 192.

```
1804 \newbool{WPTitleHeading}
1805 \boolefalse{WPTitleHeading}
```

```
1806 \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:** 1807 \begin{warpHTML}

```
1808 \AtBeginDocument{
1809 \ifbool{FormatWP} {
1810 \@ifundefined{chapter} {
1811 \ifbool{WPTitleHeading}{% part and section starting at h2
1812 \renewcommand*\{\LWR@tagtitle\}{h1}
1813 \renewcommand*\{\LWR@tagtitleend\}{/h1}
1814 \renewcommand*\{\LWR@tagpart\}{h2}
1815 \renewcommand*\{\LWR@tagpartend\}{/h2}
1816 \renewcommand*\{\LWR@tagsection\}{h3}
1817 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1818 \renewcommand*\{\LWR@tagsubsection\}{h4}
1819 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}}
```

```
1820 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1821 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1822 \renewcommand*\{\LWR@tagparagraph\}{h6}
1823 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1824 \renewcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
1825 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1826 }% WPTitleHeading
1827 {% not WPTitleHeading, part and section starting at h1
1828 \renewcommand*\{\LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl{}}
1829 \renewcommand*\{\LWR@tagtitleend\}{/div}
1830 \renewcommand*\{\LWR@tagpart\}{h1}
1831 \renewcommand*\{\LWR@tagpartend\}{/h1}
1832 \renewcommand*\{\LWR@tagsection\}{h2}
1833 \renewcommand*\{\LWR@tagsectionend\}{/h2}
1834 \renewcommand*\{\LWR@tagsubsection\}{h3}
1835 \renewcommand*\{\LWR@tagsubsectionend\}{/h3}
1836 \renewcommand*\{\LWR@tagsubsubsection\}{h4}
1837 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h4}
1838 \renewcommand*\{\LWR@tagparagraph\}{h5}
1839 \renewcommand*\{\LWR@tagparagraphend\}{/h5}
1840 \renewcommand*\{\LWR@tagsubparagraph\}{h6}
1841 \renewcommand*\{\LWR@tagsubparagraphend\}{/h6}
1842 }% not WPTitleHeading
1843 }% chapter undefined
1844 {% chapter defined
1845 \ifbooleq{WPTitleHeading}{}%
1846 {% not WPTitleHeading, part and chapter starting at h1
1847 \renewcommand*\{\LWR@tagtitle\}{div class=\textquotedbl{}title\textquotedbl{}}
1848 \renewcommand*\{\LWR@tagtitleend\}{/div}
1849 \renewcommand*\{\LWR@tagpart\}{h1}
1850 \renewcommand*\{\LWR@tagpartend\}{/h1}
1851 \renewcommand*\{\LWR@tagchapter\}{h2}
1852 \renewcommand*\{\LWR@tagchapterend\}{/h2}
1853 \renewcommand*\{\LWR@tagsection\}{h3}
1854 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1855 \renewcommand*\{\LWR@tagsubsection\}{h4}
1856 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1857 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1858 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1859 \renewcommand*\{\LWR@tagparagraph\}{h6}
1860 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1861 \renewcommand*\{\LWR@tagsubparagraph\}{span class=\textquotedbl{}subparagraph\textquotedbl{}}
1862 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1863 }% not WPTitleHeading
1864 }% chapter defined
1865 }{}% FormatWP
1866 }% AtBeginDocument
1867 \end{warpHTML}
```

## 38 Remembering original formatting macros

for HTML output: 1868 \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.

```

1869 \chardef\LWR@origpound='\#
1870 \let\LWR@origcomma\
1871 \let\LWR@origthinspace\thinspace
1872 \let\LWR@orignegthinspace\negthinspace
1873 \let\LWR@origtilde~
1874 \let\LWR@origskip\enskip
1875 \let\LWR@origquad\quad
1876 \let\LWR@origqquad\qquad
1877 \let\LWR@orighfil\hfil
1878 \let\LWR@orighss\hss
1879 \let\LWR@origllap\llap
1880 \let\LWR@origrlap\rlap
1881 \let\LWR@origfilneg\hfilneg
1882 \let\LWR@orighspace\hspace
1883
1884 \let\LWR@origrule\rule
1885
1886 \let\LWR@origmedskip\medskip
1887 \let\LWR@origbigskip\bigskip
1888
1889 \let\LWR@origtextellipsis\textellipsis
1890 \let\LWR@origvdots\vdots

```

`libertinus-otf` has too much kerning for `\textquotedbl`, causing an extra space.

```

1891 \LetLtxMacro{\LWR@orig@@textquotedbl}{\textquotedbl}
1892 \LetLtxMacro{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl}
1893
1894 \AtEndPreamble{
1895   \@ifpackageloaded{libertinus-otf} {
1896     \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@textquotedbl\kern-.15em}
1897     \LetLtxMacro{\textquotedbl}{\LWR@orig@textquotedbl}
1898   }{}}
1899 }

1900 \LetLtxMacro{\LWR@origttfamily}{\ttfamily}
1901
1902 \LetLtxMacro{\LWR@origem}{\em}
1903
1904 \LetLtxMacro{\LWR@orignormalfont}{\normalfont}
1905
1906 \let\LWR@origonecolumn\onecolumn
1907
1908 \let\LWR@origsp\sp
1909 \let\LWR@origsb\sb

```

```

1910
1911 \LetLtxMacro{\LWR@origunderline}{\underline}

1912 \let{\LWR@orignewpage}{\newpage}
1913
1914 \let{\LWR@origpagestyle}{\pagestyle}
1915 \let{\LWR@origthispagestyle}{\thispagestyle}
1916 \LetLtxMacro{\LWR@origpagenumbering}{\pagenumbering}
1917
1918 \let{\LWR@orignewline}{\newline}
1919
1920 \AtBeginDocument{%
  % in case packages change definition
  \let{\LWR@orig@trivlist}{\@trivlist}
  \let{\LWR@origtrivlist}{\trivlist}
  \let{\LWR@origendtrivlist}{\endtrivlist}
  \LetLtxMacro{\LWR@origitem}{\item}
  \LetLtxMacro{\LWR@origitemize}{\itemize}
  \LetLtxMacro{\LWR@endorigitemize}{\enditemize}
  \LetLtxMacro{\LWR@origenumerate}{\enumerate}
  \LetLtxMacro{\LWR@endorigenumerate}{\endenumerate}
  \LetLtxMacro{\LWR@origdescription}{\description}
  \LetLtxMacro{\LWR@endorigdescription}{\enddescription}
  \let{\LWR@orig@mklab}{\@mklab}
  \let{\LWR@origmakelabel}{\makelabel}
  \let{\LWR@origdonoparitem}{\@donoparitem}
  \LetLtxMacro{\LWR@orig@item}{\@item}
  \let{\LWR@orig@nbitem}{\@nbitem}
  \let{\LWR@orig@nbitem}{\@nbitem}
}
1936 }
1937
1938 \let{\LWR@origpar}{\par}
1939
1940 \LetLtxMacro{\LWR@origfootnote}{\footnote}
1941 \let{\LWR@orig@mpfootnotetext}{\@mpfootnotetext}
1942
1943
1944 \AtBeginDocument{%
  % in case packages change definition
  \LetLtxMacro{\LWR@orighline}{\hline}
  \LetLtxMacro{\LWR@origcline}{\cline}
}
1947 }

1948 \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<sup>E</sup>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:** 1949 \begin{warpHTML}

Without \AtBeginDocument, \t was being re-defined somewhere.

```
1950 \AtBeginDocument{
```

The following are restored for print when inside a `\teximage`.

For Unicode engines, only \t needs to be redefined:

```
1951 \LetLtxMacro{\LWR@origtie}{\t}
```

For pdf<sup>L</sup>ATE<sub>X</sub>, additional work is required:

```
1952 \ifPDFTeX% pdflatex or dvi latex
1953 \LetLtxMacro{\LWR@origgraveaccent}{`}
1954 \LetLtxMacro{\LWR@origacuteaccent}{'}
1955 \LetLtxMacro{\LWR@origcircumflexaccent}{^}
1956 \LetLtxMacro{\LWR@origtildeaccent}{\~{}}
1957 \LetLtxMacro{\LWR@origmacronaccent}{=}
1958 \LetLtxMacro{\LWR@origbreve}{\u}
1959 \LetLtxMacro{\LWR@origdotaccent}{\.}
1960 \LetLtxMacro{\LWR@origdiaeresisaccent}{\H}
1961 \LetLtxMacro{\LWR@origdoubleacuteaccent}{\H}
1962 \LetLtxMacro{\LWR@origcaronaccent}{\v}
1963 \LetLtxMacro{\LWR@origdotbelowaccent}{\d}
1964 \LetLtxMacro{\LWR@origcedillaaccent}{\c}
1965 \LetLtxMacro{\LWR@origmacronbelowaccent}{\b}
```

The HTML redefinitions follow.

For pdf<sup>L</sup>ATE<sub>X</sub>, Unicode diacritical marks are used:

```
1966 \renewcommand*{'[1]{\#1\HTMLunicode{0300}}}
1967 \renewcommand*{'[1]{\#1\HTMLunicode{0301}}}
1968 \renewcommand*{'^}[1]{\#1\HTMLunicode{0302}}
1969 \renewcommand*{'~}[1]{\#1\HTMLunicode{0303}}
1970 \renewcommand*{'=}[1]{\#1\HTMLunicode{0304}}
1971 \renewcommand*{'u}[1]{\#1\HTMLunicode{0306}}
1972 \renewcommand*{' . }[1]{\#1\HTMLunicode{0307}}
1973 \renewcommand*{'"}[1]{\#1\HTMLunicode{0308}}
1974 \renewcommand*{'H}[1]{\#1\HTMLunicode{030B}}
1975 \renewcommand*{'v}[1]{\#1\HTMLunicode{030C}}
1976 \renewcommand*{'d}[1]{\#1\HTMLunicode{0323}}
1977 \renewcommand*{'c}[1]{\#1\HTMLunicode{0327}}
1978 \renewcommand*{'b}[1]{\#1\HTMLunicode{0331}}
1979 \fi
```

For all engines, a Unicode diacritical tie is used:

```
1980 \def{\LWR@t}{\#1\#1\HTMLunicode{0361}\#2}
1981 \renewcommand*{\t}[1]{\LWR@t}
```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a `\teximage` is begun.

```
1982 \ifPDFTeX% pdflatex or dvi latex
```

```

1983 \newcommand*{\LWR@restoreorigaccents}{%
1984     \LetLtxMacro{\LWR@origgraveaccent}%
1985     \LetLtxMacro{\LWR@origacuteaccent}%
1986     \LetLtxMacro{\LWR@origcircumflexaccent}%
1987     \LetLtxMacro{\LWR@origtildeaccent}%
1988     \LetLtxMacro{\LWR@origmacronaccent}%
1989     \LetLtxMacro{\LWR@origbreve}%
1990     \LetLtxMacro{\LWR@origdotaccent}%
1991     \LetLtxMacro{\LWR@origdiaeresisaccent}%
1992     \LetLtxMacro{\H\LWR@origdoubleacuteaccent}%
1993     \LetLtxMacro{\v\LWR@origcaronaccent}%
1994     \LetLtxMacro{\t\LWR@origtie}%
1995     \LetLtxMacro{\d\LWR@origdotbelowaccent}%
1996     \LetLtxMacro{\c\LWR@origcedillaaccent}%
1997     \LetLtxMacro{\b\LWR@origmacronbelowaccent}%
1998 }%
1999 \else% XeLaTeX, LuaLaTeX:
2000 \newcommand*{\LWR@restoreorigaccents}{%
2001     \LetLtxMacro{\t\LWR@origtie}%
2002 }%
2003 \fi%
2004 }% AtBeginDocument

2005 \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:

```
2006 \LWR@excludecomment{\LWRwriteconf}{\writeconf}
```

Generate configuration files if print mode and not `-pstool`:

```

for PRINT output: 2007 \begin{warpprint}
2008 \fullexpandarg%
2009 \IfSubStr*{\jobname}{-pstool}
2010   {
2011     \PackageInfo{lwarp}{%
2012       Jobname with -pstool is found.\MessageBreak
2013       Not generating lwarp configuration files,%
2014     }
2015   }
2016   {
2017     \PackageInfo{lwarp}{Generating lwarp configuration files,}%

```

---

```

2018      \LWR@includecomment{LWRwriteconf}{writeconf}
2019    }
2020 \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:**

```

2021 \begin{LWRwriteconf}
2022 \immediate\openout\LWR@quickfile=\jobname_html.tex
2023 \immediate\write\LWR@quickfile{%
2024 \detokenize{\PassOptionsToPackage}{%
2025 {warpHTML,BaseJobname=\jobname}{lwarp}}%
2026 }
2027 \immediate\write\LWR@quickfile{%
2028 \detokenize{\input}{\string{\jobname.tex}\string{}}%
2029 }
2030 \immediate\closeout\LWR@quickfile
2031 \end{LWRwriteconf}
```

## 40.3 lwarpmk configuration files

**Config file:**

```
2032 \begin{LWRwriteconf}
```

\LWR@lwarfconfversion 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 *lwarp* version number.)

```
2033 \newcommand*\LWR@lwarfconfversion{2}%
also in lwarpmk.lua
```

### 40.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```

2034 \ifshellescape
2035   \def\LWR@shellescapecmd{--shell-escape }
2036 \else
2037   \def\LWR@shellescapecmd{}
2038 \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

```

2039 \newcommand*\LWR@compilecmd[2]{%
2040   #1 \LWR@shellescapecmd \jobname#2%
2041 }
```

---

```
\LWR@addcompilecmd {⟨cmd⟩} {⟨suffix⟩}
```

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or \_html

```
2042 \newcommand*{\LWR@addcompilecmd}[2]{%
2043     \LWRopseq
2044     #1 \jobname#2%
2045 }
```

```
\LWR@unknownengine Error message if not sure which LATEX engine is being used.
```

```
2046 \newcommand*{\LWR@unknownengine}{%
2047     \PackageError{lwarp}{%
2048         {Unknown LATEX engine}}%
2049         {%
2050             Lwarp only knows about pdflatex, DVI latex,
2051             xelatex, lualatex, and upLateX.%%
2052         }%
2053 }
```

```
\LWR@latexmkvar {⟨varname⟩} {⟨value⟩}
```

Adds a *latexmk* variable assignment.

```
2054 \newcommand*{\LWR@latexmkvar}[2]{%
2055     -e
2056     \LWRopquote%
2057     \LWRdollar #1=q/#2/%
2058     \LWRopquote
2059 }
```

```
\LWR@latexmkcmd {⟨latexmk options⟩}
```

Sets a call to *latexmk* with the given options, possibly adding --shell-escape, and also adding the indexing program.

```
2060 \newcommand*{\LWR@Latexmkcmd}[1]{%
2061     latexmk \space \LWR@shellescapecmd \space #1 \space
2062     -recorder \space
2063     \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
2064 }
```

```
\LWR@Latexmkdvipdfm {⟨dvipdfm or dvipdfmx⟩}
```

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
2065 \newcommand*{\LWR@Latexmkdvipdfm}[1]{%
2066     -pdfdvi \space
2067     \LWR@latexmkvar{dvipdf}{%
2068         #1
2069         \@percentchar 0
```

---

```

2070      -o \@percentchar D
2071      \@percentchar S%
2072  }
2073 }
```

\LWR@compileuplatex Sets compile options for up<sup>L</sup>AT<sub>E</sub>X with ujaricle or related classes.

```

2074 \newcommand*\LWR@compileuplatex{%
2075   \def\LWR@tempprintlatexcmd{%
2076     \LWR@compilecmd{uplatex}{}%
2077     \LWR@addcompilecmd{dvipdfmx}{}%
2078   }%
2079   \def\LWR@tempHTMLlatexcmd{%
2080     \LWR@compilecmd{uplatex}{_html}%
2081     \LWR@addcompilecmd{dvipdfmx}{_html}%
2082   }%
2083 }
```

\LWR@PrintLatexCmd If not set by the user, the following sets the command to use to compile the source to PDF form.  
\LWR@HTMLLatexCmd

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.

```
2084 \ifbool{\LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
2085 \ifpdf
```

For *latexmk* with *pdflatex*:

```

2086 \ifPDFTeX
2087   \def\LWR@latextcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2088 \else
```

For *latexmk* with *lualatex*:

```
2089      \ifLuaTeX
2090          \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2091      \else
2092          \LWR@unknownengine
2093      \fi
2094  \fi
2095 \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
2096 \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2097 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2098 \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
2099      \ifbool{LWR@dvipdfm}%
2100          \def\LWR@latexcmd{%
2101              \LWR@latexmkcmd{%
2102                  \LWR@latexmkdvipdfm{dvipdfm}}%
2103          }
2104      }
2105  }{
2106      \ifbool{LWR@dvipdfmx}%
2107          \def\LWR@latexcmd{%
2108              \LWR@latexmkcmd{%
2109                  \LWR@latexmkdvipdfm{dvipdfmx}}%
2110          }
2111      }
2112  }{
2113      \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2114  }
2115  }
2116 \fi
2117 \fi% \ifpdf
```

The final assignment if *latexmk*:

```
2118 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2119 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2120 }% latexmk
```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```
2121 {%
2122     \ifpdf
```

For *pdflatex* or *lualatex*:

```
2123      \ifPDFTeX
```

For *pdflatex*:

```
2124          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
```

```
2125          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
```

```
2126      \else
```

```
2127          \ifLuaTeX
```

For *lualatex*:

```
2128          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
```

```
2129          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
```

```
2130      \else
```

```
2131          \LWR@unknownengine
```

```
2132      \fi
```

```
2133      \fi
```

```
2134  \else% \ifpdf
```

For dvi *latex* or *xelatex*:

```
2135      \ifXeTeX
```

For *xelatex*:

```
2136          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
```

```
2137          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
```

```
2138      \else
```

For dvi *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
2139      \ifbool{LWR@dvipdfm}{
```

For dvi *latex* with *dvipdfm*:

```
2140          \def\LWR@tempprintlatexcmd{%
2141              \LWR@compilecmd{latex}{}
2142              \LWR@addcompilecmd{dvipdfm}{}
2143          }
2144          \def\LWR@tempHTMLlatexcmd{%
2145              \LWR@compilecmd{latex}{_html}
2146              \LWR@addcompilecmd{dvipdfm}{_html}
2147          }
2148      }{
2149          \ifbool{LWR@dvipdfmx}{
```

For dvi *latex* with *dvipdfmx*:

```
2150          \def\LWR@tempprintlatexcmd{%
2151              \LWR@compilecmd{latex}{}
2152              \LWR@addcompilecmd{dvipdfmx}{}
2153          }
```

```

2154          \def\LWR@tempHTMLlatexcmd{%
2155              \LWR@compilecmd{latex}{_html}
2156              \LWR@addcompilecmd{dvipdfmx}{_html}
2157          }
2158      }% dvips

```

For dvi *latex* with *dvips* and *ps2pdf*:

```

2159          \def\LWR@tempprintlatexcmd{%
2160              \LWR@compilecmd{latex}{}
2161              \LWR@addcompilecmd{dvips}{}
2162              \LWR@addcompilecmd{ps2pdf}{}.ps
2163          }
2164          \def\LWR@tempHTMLlatexcmd{%
2165              \LWR@compilecmd{latex}{_html}
2166              \LWR@addcompilecmd{dvips}{_html}
2167              \LWR@addcompilecmd{ps2pdf}{_html}.ps
2168          }
2169      }
2170  }
2171  \fi% \ifXeTeX
2172  \fi% \ifpdf
2173 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using up<sup>L</sup>T<sub>E</sub>X and *dvipdfmx*:

```

2174 \@ifclassloaded{ujarticle}{\LWR@compileuplateX}{}
2175 \@ifclassloaded{ujbook}{\LWR@compileuplateX}{}
2176 \@ifclassloaded{ujreport}{\LWR@compileuplateX}{}
2177 \@ifclassloaded{utarticle}{\LWR@compileuplateX}{}
2178 \@ifclassloaded{utbook}{\LWR@compileuplateX}{}
2179 \@ifclassloaded{utreport}{\LWR@compileuplateX}{}

```

Only make the setting permanent if the original was empty:

```

2180 \ifdefempty{\LWR@PrintLatexCmd}{%
2181     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2182 }
2183 \ifdefempty{\LWR@HTMLLateXCmd}{%
2184     \def\LWR@HTMLLateXCmd{\LWR@tempHTMLlatexcmd}
2185 }

```

\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.

```

2186 \newcommand{\LWR@writeconf}[1]{%
2187 \ifcsdef{\LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
2188 \immediate\openout\LWR@quickfile=#1
2189 \immediate\write{\LWR@quickfile}{confversion = [[\LWR@lwarfconfversion]]}
2190 \ifbool{usingOSWindows}{%
2191     \immediate\write{\LWR@quickfile}{opsystem = [[Windows]]}

```

```

2192 }{
2193     \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2194 }
2195 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2196 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2197 \immediate\write\LWR@quickfile{htmldirectory = [[\HTMLFilename]]}
2198 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2199 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2200 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}
2201 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2202 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2203 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2204 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2205 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2206 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2207 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2208 \immediate\closeout\LWR@quickfile
2209 }
2210

2211 \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:**

```

2212 \begin{LWRwriteconf}
2213
2214 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}
2215
2216 \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:**

```

2217 \begin{LWRwriteconf}
2218
2219 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
2220
2221 \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:**

```
2222 \begin{LWRwriteconf}
2223 \begin{filecontents*}[overwrite]{lwarp.css}
2224 /*
2225   CSS stylesheet for the LaTeX Lwarp package
2226   Copyright 2016-2021 Brian Dunn – BD Tech Concepts LLC
2227 */
2228
2229
2230 /* a fix for older browsers: */
2231 header, section, footer, aside, nav, main,
2232     article, figure { display: block; }
2233
2234
2235 A:link {color:#000080 ; text-decoration: none ; }
2236 A:visited {color:#800000 ; }
2237 A:hover {color:#000080 ; text-decoration: underline ;}
2238 A:active {color:#800000 ; }
2239
2240 a.tocbook {display: inline-block ; margin-left: 0em ;
2241     font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2242 a.tocpart {display: inline-block ; margin-left: 0em ;
2243     font-weight: bold ;}
2244 a.tocchapter {display: inline-block ; margin-left: 0em ;
2245     font-weight: bold ;}
2246 a.tocsection {display: inline-block ; margin-left: 1em ;
2247     text-indent: -.5em ; font-weight: bold ;}
2248 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2249     text-indent: -.5em ;}
2250 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2251     text-indent: -.5em ;}
2252 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2253     text-indent: -.5em ;}
2254 a.toc subparagraph {display: inline-block ; margin-left: 5em ;
2255     text-indent: -.5em ;}
2256 a.tocfigure {margin-left: 0em}
2257 a.tocsubfigure {margin-left: 2em}
2258 a.toctable {margin-left: 0em}
2259 a.tocsubtable {margin-left: 2em}
2260 a.toctheorem {margin-left: 0em}
2261 a.toclstlisting {margin-left: 0em}
2262
2263 body {
2264     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2265         "Lucida Bright", Georgia, serif;
2266     background: #FAF7F4 ;
2267     color: black ;
2268     margin:0em ;
2269     padding:0em ;
2270     font-size: 100% ;
2271     line-height: 1.2 ;
2272 }
2273
2274 p {margin: 1.5ex 0em 1.5ex 0em ;}
```

```
2275 table p {margin: .5ex 0em .5ex 0em ;}
2276
2277 /* Holds a section number */
2278 span.sectionnumber { margin-right: 0em }
2279
2280 /* Inserted in front of index lines */
2281 span.indexitem {margin-left: 0em}
2282 span.indexsubitem {margin-left: 2em}
2283 span.indexsubsubitem {margin-left: 4em}
2284 div.indexheading {margin-top: 2ex ; font-weight: bold}
2285
2286 div.hidden, span.hidden { display: none ; }
2287
2288 kbd, span.texttt, p span.texttt {
2289     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2290             "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2291             "Courier New", monospace;
2292     font-size: 100% ;
2293 }
2294
2295 pre { padding: 3pt ; }
2296
2297 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
2298
2299 span.textit, div.textit { font-style: italic; }
2300
2301 span.textmd, div.textmd { font-weight: normal; }
2302
2303 span.textup, div.textup {
2304     font-style: normal;
2305     font-variant: normal;
2306     font-variant-numeric: normal ;
2307 }
2308
2309 span.textsc, div.textsc {
2310     font-variant: small-caps;
2311     font-variant-numeric: oldstyle-nums ;
2312 }
2313
2314 span.textulc, div.textulc {
2315     font-variant: normal ;
2316     font-variant-numeric: normal ;
2317 }
2318
2319 span.textsl, div.textsl { font-style: oblique; }
2320
2321 span.textrm, div.textrm {
2322     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2323             "Lucida Bright", Georgia, serif;
2324 }
2325
2326 span.textsf, div.textsf {
2327     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2328             Geneva, Verdana, sans-serif ;
2329 }
```

```
2330
2331 /* nfssext-cfr lining figures */
2332 span.textln, div.textln {
2333     font-variant-numeric: lining-nums ;
2334 }
2335
2336 /* nfssext-cfr proportional figures */
2337 span.textp, div.textp {
2338     font-variant-numeric: proportional-nums ;
2339 }
2340
2341 /* nfssext-cfr tabular figures */
2342 span.texttt, div.texttt {
2343     font-variant-numeric: tabular-nums ;
2344 }
2345
2346 /* nfssext-cfr font weights */
2347 span.textdb, div.textdb {
2348     font-weight: 500 ;
2349 }
2350
2351 span.textsb, div.textsb {
2352     font-weight: 600 ;
2353 }
2354
2355 span.texteb, div.texteb {
2356     font-weight: 800 ;
2357 }
2358
2359 span.textub, div.textub {
2360     font-weight: 900 ;
2361 }
2362
2363 span.textlg, div.textlg {
2364     font-weight: 300 ;
2365 }
2366
2367 span.textel, div.textel {
2368     font-weight: 200 ;
2369 }
2370
2371 span.textul, div.textul {
2372     font-weight: 100 ;
2373 }
2374
2375
2376
2377 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2378
2379 span.underline {
2380     text-decoration: underline ;
2381     text-decoration-skip: auto ;
2382 }
2383
2384 span.overline {
```

```
2385     text-decoration: overline ;
2386     text-decoration-skip: auto ;
2387 }
2388
2389 div.hrule { border-top: 1px solid silver }
2390
2391
2392 /* for vertical text: */
2393 div.verticalrl { writing-mode: vertical-rl }
2394 div.horizontaltb { writing-mode: horizontal-tb }
2395
2396
2397 /* for diagbox */
2398 div.diagboxtitleN { border-bottom: 1px solid gray }
2399 div.diagboxtitleS { border-top: 1px solid gray }
2400
2401 div.diagboxE {
2402     padding-left: 2em ;
2403     text-align: right ;
2404 }
2405
2406 div.diagboxW {
2407     padding-right: 2em ;
2408     text-align: left ;
2409 }
2410
2411
2412
2413 /* For realscripts */
2414 .supsubscript {
2415     display: inline-block;
2416     text-align:left ;
2417 }
2418
2419 .supsubscript sup,
2420 .supsubscript sub {
2421     position: relative;
2422     display: block;
2423     font-size: .7em;
2424     line-height: 1;
2425 }
2426
2427 .supsubscript sup {
2428     top: .3em;
2429 }
2430
2431 .supsubscript sub {
2432     top: .3em;
2433 }
2434
2435 div.attribution p {
2436     text-align: right ;
2437     font-size: 80%
2438 }
2439
```

```
2440 span.poemtitle {  
2441   font-size: 120% ; font-weight: bold;  
2442 }  
2443  
2444 pre.tabbing {  
2445   font-family: "Linux Libertine Mono O", "Lucida Console",  
2446     "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",  
2447     "Liberation Mono", "FreeMono", "Andale Mono",  
2448     "Nimbus Mono L", "Courier New", monospace;  
2449 }  
2450  
2451 blockquote {  
2452   display: block ;  
2453   margin-left: 2em ;  
2454   margin-right: 2em ;  
2455 }  
2456  
2457 /* quotchap is for the quotchap package */  
2458 div.quotchap {  
2459   display: block ;  
2460   font-style: oblique ;  
2461   overflow-x: auto ;  
2462   margin-left: 2em ;  
2463   margin-right: 2em ;  
2464 }  
2465  
2466 blockquote p, div.quotchap p {  
2467   line-height: 1.5;  
2468   text-align: left ;  
2469   font-size: .85em ;  
2470 }  
2471  
2472 /* qauthor is for the quotchap package */  
2473 div.qauthor {  
2474   display: block ;  
2475   text-align: right ;  
2476   margin-left: auto ;  
2477   margin-right: 2em ;  
2478   font-size: 80% ;  
2479   font-variant: small-caps;  
2480 }  
2481  
2482 div.qauthor p {  
2483   text-align: right ;  
2484 }  
2485  
2486 div.epigraph, div.dictum {  
2487   line-height: 1.2;  
2488   text-align: left ;  
2489   padding: 3ex 1em 0ex 1em ;  
2490 /*   margin: 3ex auto 3ex auto ; /* Epigraph centered */  
2491   margin: 3ex 1em 3ex auto ; /* Epigraph to the right */  
2492 /*   margin: 3ex 1em 3ex 1em ; /* Epigraph to the left */  
2493   font-size: .85em ;  
2494   max-width: 27em ;
```

```
2495 }
2496
2497 div.epigraphsource, div.dictumauthor {
2498     text-align:right ;
2499     margin-left:auto ;
2500 /*      max-width: 50% ; */
2501     border-top: 1px solid #A0A0A0 ;
2502     padding-bottom: 3ex ;
2503     line-height: 1.2;
2504 }
2505
2506 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2507 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2508 div.dictumauthor { font-style:italic }
2509
2510
2511 /* copyrightbox package: */
2512 div.copyrightbox { margin: .5ex .5em }
2513 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2514 div.copyrightboxnote {text-align: left ; font-size: 60%}
2515
2516
2517 /* lettrine package: */
2518 span.lettrine { font-size: 4ex ; float: left ; }
2519 span.lettrinetext { font-variant: small-caps ; }
2520
2521 /* ulem, soul, umoline packages: */
2522 span.uline {
2523     text-decoration: underline ;
2524     text-decoration-skip: auto ;
2525 }
2526
2527 span.uline {
2528     text-decoration: underline ;
2529     text-decoration-skip: auto ;
2530     text-decoration-style: double ;
2531 }
2532
2533 span.uwave {
2534     text-decoration: underline ;
2535     text-decoration-skip: auto ;
2536     text-decoration-style: wavy ;
2537 }
2538
2539 span.sout {
2540     text-decoration: line-through ;
2541 }
2542
2543 span.oline {
2544     text-decoration: overline ;
2545     text-decoration-skip: auto ;
2546 }
2547
2548 span.xout {
2549     text-decoration: line-through ;
```

```
2550 }
2551
2552 span.dashuline {
2553     text-decoration: underline ;
2554     text-decoration-skip: auto ;
2555     text-decoration-style: dashed ;
2556 }
2557
2558 span.dotuline {
2559     text-decoration: underline ;
2560     text-decoration-skip: auto ;
2561     text-decoration-style: dotted ;
2562 }
2563
2564 span.letterspacing { letter-spacing: .2ex ; }
2565
2566 span.capsspacing {
2567     font-variant: small-caps ;
2568     letter-spacing: .1ex ;
2569 }
2570
2571 span.highlight { background: #F8E800 ; }
2572
2573
2574 /* keystroke package: */
2575 span.keystroke {
2576     border-style: outset ;
2577     padding: 0pt .5em 0pt .5em ;
2578 }
2579
2580
2581 html body {
2582     margin: 0 ;
2583     line-height: 1.2;
2584 }
2585
2586
2587 body div {
2588     margin: 0ex;
2589 }
2590
2591
2592 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2593 {
2594     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2595         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2596         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2597         "Times New Roman", serif;
2598     font-style: normal ;
2599     font-weight: bold ;
2600     text-align: left ;
2601 }
2602
2603 h1 { /* title of the entire website, used on each page */
2604     text-align: center ;
```

```
2605     font-size: 2.5em ;
2606     padding: .4ex 0em 0ex 0em ;
2607 }
2608
2609 div.book {
2610     text-align: center ;
2611     font-size: 2.325em ;
2612     padding: .4ex 0em 0ex 0em ;
2613 }
2614
2615 h2 { font-size: 2.25em }
2616 h3 { font-size: 2em }
2617 h4 { font-size: 1.75em }
2618 h5 { font-size: 1.5em }
2619 h6 { font-size: 1.25em }
2620 span.paragraph {font-size: 1em ; font-variant: normal ;
2621     margin-right: 1em ; }
2622 span.subparagraph {font-size: 1em ; font-variant: normal ;
2623     margin-right: 1em ; }
2624
2625 div.minisec {
2626     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2627         Geneva, Verdana, sans-serif ;
2628     font-style: normal ;
2629     font-weight: bold ;
2630     text-align: left ;
2631 }
2632
2633 h1 {
2634     margin: 0ex 0em 0ex 0em ;
2635     line-height: 1.3;
2636     text-align: center ;
2637 }
2638
2639 h2 {
2640     margin: 1ex 0em 1ex 0em ;
2641     line-height: 1.3;
2642     text-align: center ;
2643 }
2644
2645 h3 {
2646     margin: 3ex 0em 1ex 0em ;
2647     line-height: 1.3;
2648 }
2649
2650 h4 {
2651     margin: 3ex 0em 1ex 0em ;
2652     line-height: 1.3;
2653 }
2654
2655 h5 {
2656     margin: 3ex 0em 1ex 0em ;
2657     line-height: 1.3;
2658 }
2659
```

```
2660 h6 {  
2661   margin: 3ex 0em 1ex 0em ;  
2662   line-height: 1.3;  
2663 }  
2664  
2665  
2666 div.titlepage {  
2667   text-align: center ;  
2668 }  
2669  
2670 .footnotes {  
2671   text-align: left ;  
2672   font-size: .85em ;  
2673   margin: 3ex 2em 0ex 2em ;  
2674   border-top: 1px solid silver ;  
2675 }  
2676  
2677 .marginpar, .marginparblock {  
2678   max-width: 50%;  
2679   float: right ;  
2680   clear: both ;  
2681   text-align: left ;  
2682   margin: 1ex 0.5em 1ex 1em ;  
2683   padding: 1ex 0.5em 1ex 0.5em ;  
2684   font-size: 85% ;  
2685   border-top: 1px solid silver ;  
2686   border-bottom: 1px solid silver ;  
2687   overflow-x: auto ;  
2688 }  
2689  
2690 .marginpar br { margin-bottom: 2ex ; }  
2691  
2692 div.marginblock, div.marginparblock {  
2693   max-width:50%;  
2694   min-width: 10em; /* room for caption */  
2695   float:right;  
2696   text-align:left;  
2697   margin: 1ex 0.5em 1ex 1em ;  
2698   padding: 1ex 0.5em 1ex 0.5em ;  
2699   overflow-x: auto;  
2700 }  
2701  
2702 div.marginblock div.minipage,  
2703 div.marginparblock div.minipage {  
2704   display: inline-block ;  
2705   margin: 0pt auto 0pt auto ;  
2706 }  
2707  
2708 div.marginblock div.minipage p ,  
2709 div.marginparblock div.minipage p  
2710   { font-size: 85%}  
2711  
2712 div.marginblock br ,  
2713 div.marginparblock br  
2714   { margin-bottom: 2ex ; }
```

```
2715
2716 main.bodycontainer {
2717     float: left ;
2718     width: 80% ;
2719 }
2720
2721 div.bodywithoutsidetoc main.bodycontainer {
2722     float: none ;
2723     width: 100% ;
2724 }
2725
2726 section.textbody div.footnotes{
2727     margin: 3ex 2em .5ex 2em ;
2728     border-bottom: 2px solid silver ;
2729 }
2730
2731 .footnoteheader {
2732     border-top: 2px solid silver ;
2733     margin-top: 3ex ;
2734     padding-top: 1ex ;
2735     font-weight: bold ;
2736 }
2737
2738 .mpfootnotes {
2739     text-align: left ;
2740     font-size: .85em ;
2741     margin-left: 1em ;
2742     border-top: 1px solid silver ;
2743 }
2744
2745 /* Remove footnote top border in the title page. */
2746 div.titlepage div.mpfootnotes {
2747     border-top: none ;
2748 }
2749
2750
2751
2752 ul, ol {
2753     margin: 1ex 1em 1ex 0em;
2754     line-height: 1.2;
2755 }
2756
2757 body dir, body menu {
2758     margin: 3ex 1em 3ex 0em;
2759     line-height: 1.2;
2760 }
2761
2762 li { margin: 0ex 0em 1ex 0em; }
2763
2764 html {
2765     margin: 0;
2766     padding: 0;
2767 }
2768
2769 .programlisting {
```

```
2770 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2771      "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2772      "Courier New", monospace;
2773 margin: 1ex 0ex 1ex 0ex ;
2774 padding: .5ex 0pt .5ex 0pt ;
2775 overflow-x: auto;
2776 }
2777
2778 section.textbody>pre.programlisting {
2779 border-top: 1px solid silver ;
2780 border-bottom: 1px solid silver ;
2781 }
2782
2783
2784 div.displaymath {
2785     text-align: center ;
2786 }
2787
2788 div.displaymathnumbered {
2789     text-align: right ;
2790     margin-left: 5% ;
2791     margin-right: 5% ;
2792     min-width: 2.5in ;
2793 }
2794
2795 @media all and (min-width: 400px) {
2796     div.displaymathnumbered {
2797         margin-left: 10% ;
2798         margin-right: 10% ;
2799     }
2800 }
2801
2802 @media all and (min-width: 800px) {
2803     div.displaymathnumbered {
2804         margin-right: 20% ;
2805     }
2806 }
2807
2808 @media all and (min-width: 1200px) {
2809     div.displaymathnumbered {
2810         margin-right: 30% ;
2811     }
2812 }
2813
2814
2815 .inlineprogramlisting {
2816     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2817      "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2818      "Courier New", monospace;
2819     overflow-x: auto;
2820 }
2821
2822 span.listinglabel {
2823     display: inline-block ;
2824     font-size: 70% ;
```

```
2825     width: 4em ;
2826     text-align: right ;
2827     margin-right: 2em ;
2828 }
2829
2830 div.abstract {
2831   margin: 2em 5% 2em 5% ;
2832   padding: 1ex 1em 1ex 1em ;
2833 /* font-weight: bold ; */
2834   font-size: 90% ;
2835   text-align: left ;
2836 }
2837
2838 div.abstract dl {line-height:1.5;}
2839 div.abstract dt {color:#304070;}
2840
2841 div.abstracttitle{
2842   font-family: "URW Classico", Optima, "Linux Biolinum 0",
2843     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2844     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2845   font-weight:bold;
2846   font-size:1.25em;
2847   text-align: center ;
2848 }
2849
2850 span.abstractrunintitle{
2851   font-family: "URW Classico", Optima, "Linux Biolinum 0",
2852     "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2853     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2854   font-weight:bold;
2855 }
2856
2857
2858 .verbatim {
2859   overflow-x: auto ;
2860 }
2861
2862 .alltt {
2863   overflow-x: auto ;
2864 }
2865
2866
2867 .bverbatim {
2868   margin: 1ex 0pt 1ex 0pt ;
2869   padding: .5ex 0pt .5ex 0pt ;
2870   overflow-x: auto ;
2871 }
2872
2873 .lverbatim {
2874   margin: 1ex 0pt 1ex 0pt ;
2875   padding: .5ex 0pt .5ex 0pt ;
2876   overflow-x: auto ;
2877 }
2878
2879 .fancyvrb {
```

```
2880     font-size:.85em ;
2881     margin: 3ex 0pt 3ex 0pt
2882 }
2883
2884 .fancyvrblabel {
2885     font-size: .85em ;
2886     text-align: center ;
2887     font-weight: bold ;
2888     margin-top: 1ex ;
2889     margin-bottom: 1ex ;
2890 }
2891
2892
2893 .verse {
2894     font-family: "Linux Libertine Mono O", "Lucida Console",
2895                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2896                 "Liberation Mono", "FreeMono", "Andale Mono",
2897                 "Nimbus Mono L", "Courier New", monospace;
2898     margin-left: 1em ;
2899 }
2900
2901
2902 div.singlespace { line-height: 1.2 ; }
2903 div.onehalfspace { line-height: 1.5 ; }
2904 div.doublespace { line-height: 2 ; }
2905
2906
2907 /* Word processor format output: */
2908 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2909 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2910 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2911
2912
2913
2914
2915 /* Minipage environments, vertically aligned to top, center, bottom: */
2916 .minipage, .fminipage, .fcolorminipage {
2917     /* display: inline-block ; */
2918     /* Mini pages which follow each other will be tiled. */
2919     text-align:left;
2920     margin: .25em .25em .25em .25em;
2921     padding: .25em .25em .25em .25em;
2922     display: inline-flex;
2923     flex-direction: column ;
2924     overflow: auto;
2925 }
2926
2927 .inlineminipage {
2928     display: inline-block ;
2929     text-align: left
2930 }
2931
2932 /* Paragraphs in the flexbox did not collapse their margins. */
2933 /* Have not yet researched this. */
2934 .minipage p {margin: .75ex 0em .75ex 0em ;}
```

```
2935
2936 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2937 .fcolorbox .minipage, .fcolorboxBlock .minipage
2938     {border: none ; background: none;}
2939
2940 .fbox, .fboxBlock { border: 1px solid black ; }
2941
2942 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2943 .fminipage, .fcolorminipage
2944     {display: inline-block}
2945
2946 .shadowbox, .shabox {
2947     border: 1px solid black;
2948     box-shadow: 3px 3px 3px #808080 ;
2949     border-radius: 0px ;
2950     padding: .4ex .3em .4ex .3em ;
2951     margin: 0pt .3ex 0pt .3ex ;
2952     display: inline-block ;
2953 }
2954
2955 .doublebox {
2956     border: 3px double black;
2957     border-radius: 0px ;
2958     padding: .4ex .3em .4ex .3em ;
2959     margin: 0pt .3ex 0pt .3ex ;
2960     display: inline-block ;
2961 }
2962
2963 .ovalbox, .Ovalbox {
2964     border: 1px solid black;
2965     border-radius: 1ex ;
2966     padding: .4ex .3em .4ex .3em ;
2967     margin: 0pt .3ex 0pt .3ex ;
2968     display: inline-block ;
2969 }
2970
2971 .Ovalbox { border-width: 2px ; }
2972
2973 .framebox {
2974     border: 1px solid black;
2975     border-radius: 0px ;
2976     padding: .3ex .2em 0ex .2em ;
2977     margin: 0pt .1ex 0pt .1ex ;
2978     display: inline-block ;
2979 }
2980
2981
2982 /* mdframed, tcolorbox, shadebox packages */
2983 .mdframed, .tcolorbox, .shadebox {
2984     padding: 0ex ;
2985     margin: 2ex 0em 2ex 0em ;
2986     border: 1px solid black ;
2987 }
2988
2989 .tcolorbox {
```

```
2990     border-radius: 10pt ;
2991     margin: 2ex 1em 2ex 1em ;
2992 }
2993
2994 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
2995
2996 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
2997
2998 .mdframedtitle, .tcolorboxtitle {
2999     padding: .5ex 0pt 0pt 0pt ;
3000     border-radius: 10pt 10pt 0pt 0pt ;
3001     display: block ;
3002     margin-bottom: 1ex ;
3003     border-bottom: 1px solid silver ;
3004 }
3005
3006 .tcolorboxsubtitle .tcolorbox {
3007     margin: 2ex 0em 2ex 0em ;
3008     border-radius: 0pt ;
3009 }
3010
3011 .mdframedsubtitle {
3012     display: block ;
3013 }
3014
3015 .mdframedsubsubtitle {
3016     display: block ;
3017 }
3018
3019 .mdtheorem {
3020     padding: 0ex .5em 0ex .5em ;
3021     margin: 3ex 5% 3ex 5% ;
3022 }
3023
3024
3025 /* framed package */
3026 .framed, pre.boxedverbatim, fcolorbox {
3027     margin: 3ex 0em 3ex 0em ;
3028     border: 1px solid black;
3029     border-radius: 0px ;
3030     padding: .3ex 1em 0ex 1em ;
3031     display: block ;
3032 }
3033
3034 .shaded {
3035     margin: 3ex 0em 3ex 0em ;
3036     padding: .3ex 1em .3ex 1em ;
3037     display: block ;
3038 }
3039
3040 .snugframed {
3041     margin: 3ex 0em 3ex 0em ;
3042     border: 1px solid black;
3043     border-radius: 0px ;
3044     display: block ;
```

```
3045 }
3046
3047 .framedleftbar {
3048     margin: 3ex 0em 3ex 0em ;
3049     border-left: 3pt solid black;
3050     border-radius: 0px ;
3051     padding: .3ex .2em .3ex 1em ;
3052     display: block ;
3053 }
3054
3055 .framedtitle {
3056     margin: 0em ;
3057     padding: 0em ;
3058     font-size: 130%
3059 }
3060
3061 .framedtitle p { padding: .3em }
3062
3063
3064 /* For the niceframe package: */
3065
3066 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3067     padding: 1ex ;
3068     margin: 2ex auto ;
3069     border-radius: 2ex ;
3070 }
3071
3072 div.niceframe {
3073     border: 6px groove black ;
3074 }
3075
3076 div.curlyframe {
3077     border-left: 3px dotted black ;
3078     border-right: 3px dotted black ;
3079     border-radius: 6ex ;
3080 }
3081
3082 div.artdecoframe {
3083     border-left: 10px double black ;
3084     border-right: 10px double black ;
3085     border-radius: 6ex ;
3086 }
3087
3088 div.generalframe {
3089     border: 6px groove black ;
3090 }
3091
3092
3093
3094 dl {
3095     margin: 1ex 2em 1ex 0em;
3096     line-height: 1.3;
3097 }
3098
3099 dl dt {
```

```
3100    display: block ;
3101    float:left ;
3102    font-weight: bold;
3103    padding-right: 1em ;
3104 }
3105
3106 dl dd { display: block ; }
3107
3108 dl dd:after { content: "" ; display: block ; clear: both }
3109
3110 dl dd p { margin-top: 0em; }
3111
3112 dd ul, dd ol, dd dl {
3113     clear: both ;
3114 /*     padding-top: 1ex ; */
3115 }
3116
3117
3118 nav {
3119     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3120             "DejaVu Sans", "Bitstream Vera Sans",
3121             Geneva, Verdana, sans-serif ;
3122     margin-bottom: 4ex ;
3123 }
3124
3125 nav p {
3126     line-height: 1.2 ;
3127     margin-top:.5ex ;
3128     margin-bottom:.5ex;
3129     font-size: .9em ;
3130 }
3131
3132
3133
3134 img, img.hyperimage, img.borderimage {
3135     max-width: 600px;
3136     border: 1px solid silver;
3137     box-shadow: 3px 3px 3px #808080 ;
3138     padding: .5% ;
3139     margin: .5% ;
3140     background: none ;
3141 }
3142
3143 img.inlineimage{
3144     padding: 0px ;
3145     box-shadow: none ;
3146     border: none ;
3147     background: none ;
3148     margin: 0px ;
3149     display: inline-block ;
3150     border-radius: 0px ;
3151 }
3152
3153 img.logoimage{
3154     max-width: 300px ;
```

```
3155     box-shadow: 3px 3px 3px #808080 ;
3156     border: 1px solid black ;
3157     background:none ;
3158     padding:0 ;
3159     margin:.5ex ;
3160     border-radius: 10px ;
3161 }
3162
3163
3164 .section {
3165 /*
3166     To have each section float relative to each other:
3167 */
3168 /*
3169     display: block ;
3170     float: left ;
3171     position: relative ;
3172     background: white ;
3173     border: 1px solid silver ;
3174     padding: .5em ;
3175 */
3176     margin: 0ex .5em 0ex .5em ;
3177     padding: 0 ;
3178 }
3179
3180
3181 figure {
3182     margin: 5ex auto 5ex auto ;
3183     padding: 1ex 1em 1ex 1em ;
3184     overflow-x: auto ;
3185 }
3186
3187
3188 /* To automatically center images in figures: */
3189 /*
3190 figure img.inlineimage {
3191     margin: 0ex auto 0ex auto ;
3192     display: block ;
3193 }
3194 */
3195
3196 /* To automatically center minipages in figures: */
3197 /*
3198 figure div.minipage, figure div.minipage div.minipage {
3199     margin: 1ex auto 1ex auto ;
3200     display: block ;
3201 }
3202 */
3203
3204 figure figure { margin: 0pt }
3205
3206 figure div.minipage p { font-size: 85% ; }
3207
3208 figure.subfigure, figure.subtable {
3209     display: inline-block ; margin: 3ex 1em 3ex 1em ;
```

```
3210 }
3211
3212 div.figurecaption .minipage { margin:0 ; padding: 0 }
3213
3214 div.minipage figure { border: none ; box-shadow: none ; }
3215 div.minipage figure.table { margin: 0ex }
3216 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3217
3218 div.floatrow { text-align: center; }
3219
3220 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3221
3222 div.floatfoot { font-size: .85em ;
3223     border-top: 1px solid silver ; line-height: 1.2 ; }
3224
3225 div.figurecaption , .lstlistingtitle {
3226     font-size: .85em ;
3227     text-align: center ;
3228     font-weight: bold ;
3229     margin-top: 1ex ;
3230     margin-bottom: 1ex ;
3231 }
3232
3233 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3234     border-bottom: none ; background: none ;
3235 }
3236
3237 div.nonfloatcaption {
3238     margin: 1ex auto 1ex auto ;
3239     font-size: .85em ;
3240     text-align: center ;
3241     font-weight: bold ;
3242 }
3243
3244 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3245 figure div.floatrow div.minipage div.figurecaption {
3246     border: none ;
3247     background: none ;
3248 }
3249
3250
3251 /* For packages such as float, rotfloat, and algorithm2e: */
3252
3253 figure.boxed, figure.boxruled {
3254     border: 1px solid black ;
3255 }
3256
3257 figure.ruled {
3258     border-top: 1px solid black ;
3259     border-bottom: 1px solid black ;
3260     border-left: 0px ;
3261     border-right: 0px ;
3262     border-radius: 0px ;
3263     background: none ;
3264     box-shadow: none ;
```

```
3265 }
3266
3267 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3268     border-top: 1px solid silver ;
3269     border-bottom: 1px solid silver ;
3270 }
3271
3272
3273 table {
3274     margin: 1ex auto 1ex auto ;
3275     border-collapse: separate ;
3276     border-spacing: 0px ;
3277     line-height: 1.3 ;
3278 }
3279
3280 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3281     margin-bottom: 0ex ; } /* for \hline */
3282
3283 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3284     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3285
3286 td {padding: .5ex .5em .5ex .5em ;}
3287
3288 table td.tdl { text-align: left ; vertical-align: middle ; }
3289 table td.tdc { text-align: center ; vertical-align: middle ; }
3290 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3291 table td.tdbang { text-align: center ; vertical-align: middle ; }
3292 table td.tdr { text-align: right ; vertical-align: middle ; }
3293 table td.tdp { text-align: left ; vertical-align: bottom ; }
3294 table td.tdm { text-align: left ; vertical-align: middle ; }
3295 table td.tdb { text-align: left ; vertical-align: top ; }
3296 table td.tdP { text-align: center ; vertical-align: bottom ; }
3297 table td.tdM { text-align: center ; vertical-align: middle ; }
3298 table td.tdB { text-align: center ; vertical-align: top ; }
3299
3300 table td.tvertbarl { border-left: 1px solid black }
3301 table td.tvertbarldouble { border-left: 4px double black }
3302 table td.tvertbarr { border-right: 1px solid black }
3303 table td.tvertbarrdouble { border-right: 4px double black }
3304
3305 table td.tvertbarldash { border-left: 1px dashed black }
3306 table td.tvertbarldoubledash { border-left: 2px dashed black }
3307 table td.tvertbarrdash { border-right: 1px dashed black }
3308 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3309
3310
3311 /* for cmidrules: */
3312 table td.tdrule {
3313     border-top: 1px solid #A0A0A0 ;
3314 }
3315
3316 table td.tdrulel {
3317     border-top-left-radius:.5em ;
3318     border-top: 1px solid #A0A0A0 ;
3319 }
```

```
3320
3321 table td.tdruler {
3322     border-top-right-radius:.5em ;
3323     border-top: 1px solid #A0A0A0 ;
3324 }
3325
3326 table td.tdrulelr {
3327     border-top-left-radius:.5em ;
3328     border-top-right-radius:.5em ;
3329     border-top: 1px solid #A0A0A0 ;
3330 }
3331
3332
3333 /* Margins of paragraphs inside table cells: */
3334 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3335     padding-bottom: 1ex ; margin: 0ex ; }
3336 td.tdm p , td.tmbrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3337     padding-bottom: 1ex ; margin: 0ex ; }
3338 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3339     padding-bottom: 1ex ; margin: 0ex ; }
3340
3341 td.tdp , td.tdprule , td.tdP , td.tdPrule
3342     { padding: 0ex .5em 0ex .5em ; }
3343 td.tdm , td.tdMrule , td.tdM , td.tdMrule
3344     { padding: 0ex .5em 0ex .5em ; }
3345 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3346     { padding: 0ex .5em 0ex .5em ; }
3347
3348
3349 /* table notes: */
3350 .tnotes {
3351     margin: 0ex 5% 1ex 5% ;
3352     padding: 0.5ex 1em 0.5ex 1em;
3353     font-size:.80em;
3354     text-align: left ;
3355 }
3356
3357 .minipage .tnotes {
3358     margin: 0pt ;
3359     padding: 0pt ;
3360 }
3361
3362 .tnotes dl dt p {margin-bottom:0px;}
3363
3364 .tnoteitemheader {margin-right: 1em;}
3365
3366
3367 /* for colortbl and cell color */
3368 div.cellcolor {
3369     width: 100% ;
3370     padding: .5ex .5em .5ex .5em ;
3371     margin: -.5ex -.5em -.5ex -.5em ;
3372 }
3373
3374
```

```
3375 /* for lyluatex */
3376 span.lyluatex {
3377     display: inline-block ;
3378 }
3379
3380 div.lyluatex p span.lateximagesource img {
3381     display: block ;
3382     margin-top: 3ex ;
3383     margin-bottom: 3ex ;
3384 }
3385
3386
3387 /* for bigdelim */
3388 .ldelim, .rdelim { font-size: 200% }
3389
3390
3391 /* center, flushleft, flushright environments */
3392 div.center{text-align:center;}
3393 div.center table {margin-left:auto;margin-right:auto;}
3394 div.flushleft{text-align:left;}
3395 div.flushleft table {margin-left:0em ; margin-right:auto;}
3396 div.flushright{text-align:right;}
3397 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3398
3399
3400 /* Fancybox */
3401 div.Btrivlist table tr td {
3402     padding: .2ex 0em ;
3403 }
3404
3405
3406 /* program listing callouts: */
3407 span.callout {
3408     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3409                 Geneva, Verdana, sans-serif ;
3410     border-radius: .5em;
3411     background-color:black;
3412     color:white;
3413     padding:0px .25em 0px .25em;
3414     margin: 0 ;
3415     font-weight: bold;
3416     font-size:.72em ;
3417 }
3418
3419 div.programlisting pre.verbatim span.callout{
3420     font-size: .85em ;
3421 }
3422
3423 span.verbatim {
3424     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3425                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3426                 "Courier New", monospace;
3427 }
3428
3429
```

```
3430
3431 div.titlehead
3432 {
3433     text-align: left ;
3434     font-style: normal ;
3435     font-weight: normal ;
3436     font-style: normal ;
3437     font-size: .8em ;
3438     margin: 1ex 0em 1ex 0em ;
3439 }
3440
3441 div.subject
3442 {
3443     text-align: center ;
3444     font-style: normal ;
3445     font-weight: bold ;
3446     font-style: normal ;
3447     font-size: .8em ;
3448     margin: 1ex 0em 1ex 0em ;
3449 }
3450
3451 div.published
3452 {
3453     text-align: center ;
3454     font-variant: normal ;
3455     font-style: italic ;
3456     font-size: 1em ;
3457     margin: 1ex 0em 1ex 0em ;
3458 }
3459
3460 div.subtitle
3461 {
3462     text-align: center ;
3463     font-variant: normal ;
3464     font-style: italic ;
3465     font-size: 1.25em ;
3466     margin: 1ex 0em 1ex 0em ;
3467 }
3468
3469 div.subtitle p { margin: 1ex ; }
3470
3471 div.author
3472 {
3473     font-variant: normal ;
3474     font-style: normal ;
3475     font-size: 1em ;
3476     margin: 1ex 0em 1ex 0em ;
3477 }
3478
3479 div.oneauthor {
3480     display: inline-block ;
3481     margin: 0ex 1em 0ex 1em ;
3482 }
3483
3484 /*
```

```
3485 div.author table {
3486     margin: 1ex auto 0ex auto ;
3487     background: none ;
3488 }
3489
3490 div.author table tbody tr td { padding: .25ex ; }
3491 */
3492
3493 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3494
3495 div.titledate {
3496     text-align: center ;
3497     font-size: .85em ;
3498     font-style: italic;
3499     margin: 1ex 0em 1ex 0em ;
3500 }
3501
3502
3503 nav.topnavigation{
3504     text-align: left ;
3505     padding: 0.5ex 1em 0.5ex 1em ;
3506 /*     margin: 2ex 0em 3ex 0em ; */
3507     margin: 0 ;
3508     border-bottom: 1px solid silver ;
3509     border-top: 1px solid silver ;
3510     clear:both ;
3511 }
3512
3513 nav.botnavigation{
3514     text-align: left ;
3515     padding: 0.5ex 1em 0.5ex 1em ;
3516 /*     margin: 3ex 0em 2ex 0em ; */
3517     margin: 0 ;
3518     border-top: 1px solid silver ;
3519     border-bottom: 1px solid silver ;
3520     clear:both ;
3521 }
3522
3523
3524 header {
3525     line-height: 1.2 ;
3526     font-size: 1em ;
3527     border-bottom: 1px solid silver ;
3528     margin: 0px ;
3529     padding: 2ex 1em 2ex 1em ;
3530     text-align:left ;
3531 }
3532
3533
3534 footer {
3535     font-size: .85em ;
3536     line-height: 1.2 ;
3537     margin-top: 1ex ;
3538     border-top: 1px solid silver ;
3539     padding: 2ex 1em 2ex 1em ;
```

```
3540     clear:both ;
3541     text-align:left ;
3542 }
3543
3544
3545 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3546 a.linkhome { font-weight:bold ; font-size: 1em ;}
3547
3548
3549 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3550
3551 img.lateximage{
3552     padding: 0pt ;
3553     margin: 0pt ;
3554     box-shadow: none ;
3555     border: none ;
3556     background: none ;
3557     max-width: 100% ;
3558     border-radius: 0ex ;
3559     border: none ;
3560 }
3561
3562
3563 div.sidetoccontainer {
3564     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3565         "Lucida Bright", Georgia, serif;
3566     float: left ;
3567     width: 19%; /* room for border-right next to 80% main */
3568     margin: 0pt 0em 3ex 0pt ;
3569     border-right: 1px solid silver;
3570     border-bottom: 1px solid silver;
3571     background: #FAF7F4 ;
3572     font-size:.9em ;
3573     border-radius: 0px 0px 20px 0px ;
3574 }
3575
3576 div.sidetoccontents {
3577     overflow-y: auto ;
3578     width: 100% ;
3579     text-align: left ;
3580 }
3581
3582
3583 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3584     text-indent: 0 ; }
3585
3586 nav.sidetoc p a {color:black ; font-size: .7em ;}
3587
3588 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3589     border-bottom: 1px solid silver ;    }
3590
3591 nav.sidetoc a:hover {text-decoration: underline ; }
3592
3593
3594
```

```
3595 section.textbody { margin: 0ex 1em 0ex 1em ;}
3596
3597
3598 div.multicolsheading { -webkit-column-span: all;
3599   -moz-column-span: all; column-span: all; }
3600 div.multicols {
3601   -webkit-columns: 3 auto ;
3602   -moz-columns: 3 auto ;
3603   columns: 3 auto ;
3604 }
3605 div.multicols p {margin-top: 0ex}
3606
3607
3608 /* Used for xfrac and nicefrac: */
3609 span.numerator {
3610   font-size: 60% ;
3611   vertical-align: .4em ;
3612 }
3613
3614 span.denominator {
3615   font-size: 60%
3616 }
3617
3618
3619 /* Used for algorithm2e: */
3620 div.alg2evline{
3621   margin-left: 1em ;
3622   padding-left: 1em ;
3623   border-left: 1px solid black ;
3624   border-radius: 0px 0px 0px 1ex ;
3625 }
3626
3627 div.alg2evsline{
3628   margin-left: 1em ;
3629   padding-left: 1em ;
3630   border-left: 1px solid black ;
3631 }
3632
3633 div.alg2enoline{
3634   margin-left: 1em ;
3635   padding-left: 1em ;
3636 }
3637
3638 span.alg2elinenumber{
3639   margin-right: .5em ;
3640   font-size: 50% ;
3641   color: red ;
3642 }
3643
3644
3645 /* Used for algorithmicx: */
3646 span.floatright { float: right ; }
3647
3648
3649 /* keyfloat and tocdata: */
```

```
3650 .floatnotes {
3651     margin: 0ex 5% 0ex 5% ;
3652     padding: 0ex 1em 0ex 1em ;
3653     font-size:.80em ;
3654     text-align: left ;
3655 }
3656
3657 .authorartist{
3658     display:block ;
3659     font-size:.70em ;
3660     font-style: italic;
3661 }
3662
3663 nav .authorartist{ display:inline; }
3664
3665
3666
3667 /* Native LaTeX theorems: */
3668
3669 .theoremcontents {
3670     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3671 }
3672
3673 .theoremlabel {
3674     font-style: normal; font-weight: bold ; margin-right: .5em ;
3675 }
3676
3677
3678
3679 /* theorem, amsthm, and ntheorem packages */
3680
3681 span.theoremheader,
3682 span.theoremheaderplain,
3683 span.theoremheaderdefinition,
3684 span.theoremheaderbreak,
3685 span.theoremheadermarginbreak,
3686 span.theoremheaderchangebreak,
3687 span.theoremheaderchange,
3688 span.theoremheadermargin
3689 {
3690     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3691 }
3692
3693 span.amsthmnameplain,
3694 span.amsthmnamedefinition,
3695 span.amsthmnumberplain,
3696 span.amsthmnumberdefinition
3697 {
3698     font-style:normal ; font-weight: bold ;
3699 }
3700
3701
3702 span.amsthmnameremark,
3703 span.amsthmnumberremark
3704 {font-style:italic ; font-weight: normal ; }
```

```
3705
3706
3707 span.amsthmnoteplain,
3708 span.amsthmnotedefinition
3709 {font-style:normal ;}
3710
3711
3712 span.theoremheaderremark,
3713 span.theoremheaderproof,
3714 span.amsthmproofname
3715 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3716
3717 span.theoremheadersc
3718 {
3719     font-style:normal ;
3720     font-variant: small-caps ;
3721     font-weight: normal ;
3722     margin-right: 1em ;
3723 }
3724
3725 .theoremendmark {float:right}
3726
3727 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3728 div.theorembodybreak, div.theorembodynonumberbreak,
3729 div.theorembodymarginbreak,
3730 div.theorembodychangebreak,
3731 div.theorembodychange,
3732 div.theorembodymargin
3733 {
3734     font-style:italic;
3735     margin-top: 3ex ; margin-bottom: 3ex ;
3736 }
3737
3738 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3739 div.theorembodyplainupright, nonumberplainuprightsc,
3740 div.amsthmbodydefinition, div.amsthmbodyremark,
3741 div.amsthmproof
3742 {
3743     font-style: normal ;
3744     margin-top: 3ex ; margin-bottom: 3ex ;
3745 }
3746
3747 span.amsthmnoteremark {}
3748
3749
3750 /* thmbox */
3751
3752 .thmbox {
3753     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3754     border: 1px solid gray ;
3755     padding: 1ex ;
3756 }
3757
3758 .thmboxtitle {
3759     font-style: normal; font-weight: bold ; margin-right: .5em ;
```

```
3760     border-bottom: 1px solid gray ;
3761 }
3762
3763 span.thmboxproofname, span.thmboxexamplenname {
3764     font-weight: bold ;
3765 }
3766
3767 div.thmboxproof, div.thmboxexample {
3768     font-size: 0.85em ;
3769     margin: 2ex ;
3770 }
3771
3772 div.thmboxleftbar {
3773     border-left: 2px solid black ;
3774     padding-left: 1em ;
3775 }
3776
3777
3778
3779 /* For the backnaur package: */
3780 div.backnaur {
3781     display: block ;
3782     margin: 2ex 2em 2ex 2em ;
3783 }
3784
3785 div.backnaur p {
3786     margin: .25ex 0ex .25ex 0ex ;
3787 }
3788
3789 div.backnaurprod {
3790     display: inline-block ;
3791     min-width: 8em ;
3792     text-align:right ;
3793 }
3794
3795 div.backnaurdesc {
3796     display: inline-block ;
3797 }
3798
3799
3800 /* For the notes package: */
3801 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3802     clear: both ;
3803     margin: 2ex 2em 2ex 2em ;
3804     border: 1px solid silver ;
3805 }
3806
3807 div.notesicon {
3808     float:left ;
3809     display: inline-block ;
3810     background: gold ;
3811     padding: 0ex 1em 0ex 1em ;
3812     margin-right: 1em ;
3813     font-weight: bold ;
3814 }
```

```
3815
3816 div.notescontents { font-style: italic }
3817
3818
3819 /* nolbreaks package: */
3820 span.nolbreaks { white-space: nowrap ; }
3821
3822
3823 /*
3824 For CSS LaTeX and related logos:
3825 Based on spacing demonstrated by the metafont package.
3826
3827 The subscripts are shrunk instead of lowered below the baseline,
3828 to avoid browser rendering errors with the line height in lists, etc.
3829 */
3830
3831 .latexlogofont {
3832     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3833         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3834     font-variant: normal ;
3835 }
3836
3837 .latexlogo {
3838     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3839         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3840 }
3841
3842 .latexlogosup {
3843     text-transform: uppercase;
3844     letter-spacing: .03em ;
3845     font-size: 0.7em;
3846     vertical-align: 0.25em;
3847     margin-left: -0.4em;
3848     margin-right: -0.15em;
3849 }
3850
3851 .latexlogosub {
3852     text-transform: uppercase;
3853 /* vertical-align: -0.27ex; */
3854     margin-left: -0.08em;
3855     margin-right: -0.07em;
3856 /* font-size: 1em; */
3857     font-size: .7em ;
3858 }
3859
3860 .latexlogotwoe {
3861     text-transform: none ;
3862     font-variant-numeric: oldstyle-nums ;
3863 }
3864
3865 .latexlogotwoesub {
3866     font-style:italic ;
3867 /* vertical-align: -0.27ex; */
3868     margin-left: -0.11em;
3869     margin-right: -0.1em;
```

```
3870 /* font-size: 1em; */
3871     font-size: .7em ;
3872 }
3873
3874 .xelatexlogo {
3875     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3876         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3877     letter-spacing: .03em ;
3878 }
3879
3880 .xelatexlogosub {
3881 /* vertical-align: -0.27ex; */
3882 margin-left: -0.0667em;
3883 margin-right: -.05em;
3884 /* font-size: 1em; */
3885     font-size: .7em ;
3886     letter-spacing: .03em ;
3887 }
3888
3889 .amslogo {
3890     font-family: "TeXGyreChorus", "URW Chancery L",
3891         "Apple Chancery", "ITC Zapf Chancery", "Monotype Corsiva",
3892         "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3893         "Hoefler Text", Times, "Times New Roman", serif ;
3894     font-style: italic ;
3895 }
3896
3897 .lyxlogo {
3898     font-family: "URW Classico", Optima, "Linux Biolinum O",
3899         "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3900         Verdana, sans-serif ;
3901 }
3902
3903
3904 /* Only display top and bottom navigation if a small screen: */
3905 /* Hide the sidetoc if a small screen: */
3906 nav.topnavigation { display:none; }
3907 nav.botnavigation { display:none; }
3908
3909 /* Only display the sidetoc's webpage title if a small screen */
3910 span.sidetothetitle { display: none }
3911
3912 @media screen and (max-width: 100em) {
3913     div.multicols {
3914         -webkit-columns: 2 auto ;
3915         -moz-columns: 2 auto ;
3916         columns: 2 auto ;
3917     }
3918 }
3919
3920 @media screen and (max-width: 50em) {
3921     div.sidetoccontainer {
3922         float: none ;
3923         width: 100% ;
3924         padding: 0 ;
```

```
3925         border-radius: 0 ;
3926         border-bottom: 1px solid black ;
3927         border-top: 1px solid black ;
3928         box-shadow: none ;
3929     }
3930     span.sidetothetitle { display: inline }
3931     nav.topnavigation { display:block }
3932     nav.botnavigation { display:block }
3933     main.bodycontainer { width: 100% }
3934     .marginpar {
3935         max-width: 100%;
3936         float: none;
3937         display:block ;
3938         margin: 1ex 1em 1ex 1em ;
3939     }
3940     div.multicols {
3941         -webkit-columns: 1 auto ;
3942         -moz-columns: 1 auto ;
3943         columns: 1 auto ;
3944     }
3945 }
3946
3947 @media print {
3948     body {
3949         font-family: "Linux Libertine O",
3950             "DejaVu Serif", "Bitstream Vera Serif",
3951             "Liberation Serif", "Nimbus Roman No 9 L",
3952             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3953     }
3954     div.sidetoccontainer { display:none; }
3955     nav.topnavigation { display: none; }
3956     nav.botnavigation { display: none; }
3957     main.bodycontainer { width: 100% }
3958 }
3959
3960 @media handheld {
3961     div.sidetoccontainer { display:none; }
3962     nav.topnavigation { display:block }
3963     nav.botnavigation { display:block }
3964     main.bodycontainer { width: 100% }
3965 }
3966
3967 @media projection {
3968     div.sidetoccontainer { display:none; }
3969     nav.topnavigation { display:block }
3970     nav.botnavigation { display:block }
3971     main.bodycontainer { width: 100% }
3972 }
3973 \end{filecontents*}
3974 % \end{Verbatim}%
3975 \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: 3976 \begin{LWRwriteconf}
3977 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3978 @import url("lwarp.css") ;
3979
3980
3981 A:link {color:#105030 ; text-decoration: none ; }
3982 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3983 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3984 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3985
3986
3987
3988 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span subparagraph
3989 {
3990     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3991             "Linux Libertine 0", "Liberation Serif",
3992             "Nimbus Roman No 9 L", "FreeSerif",
3993             "Hoefler Text", Times, "Times New Roman", serif;
3994     font-variant: small-caps ;
3995     font-weight: normal ;
3996     color: #304070 ;
3997     text-shadow: 2px 2px 3px #808080;
3998 }
3999
4000 h1 { /* title of the entire website, used on each page */
4001     font-variant: small-caps ;
4002     color: #304070 ;
4003     text-shadow: 2px 2px 3px #808080;
4004     background-color: #F7F7F0 ;
4005     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4006 }
4007
4008 h1 {
4009     border-bottom: 1px solid #304070;
4010 /* border-top: 2px solid #304070; */
4011 }
4012
4013 h2 {
4014     border-bottom: 1px solid #304070;
4015 /* border-top: 2px solid #304070; */
4016     background-color: #F7F7F0 ;
4017     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4018 }
4019
4020
4021
4022 div.abstract {
4023     background: #f5f5eb ;
```

```
4024     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);  
4025  
4026     border: 1px solid silver;  
4027     border-radius: 1em ;  
4028 }  
4029  
4030 div.abstract dl {line-height:1.5;}  
4031 div.abstract dt {color:#304070;}  
4032  
4033 div.abstracttitle{  
4034     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
4035         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
4036         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
4037     font-weight:bold;  
4038     font-variant: small-caps ;  
4039     font-size:1.5em;  
4040     border-bottom: 1px solid silver ;  
4041     color: #304070 ;  
4042     text-align: center ;  
4043     text-shadow: 1px 1px 2px #808080;  
4044 }  
4045  
4046 span.abstractrunintitle{  
4047     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
4048         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
4049         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
4050     font-weight:bold;  
4051 }  
4052  
4053  
4054 div.epigraph, div.dictum {  
4055     background: #f5f5eb ;  
4056     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);  
4057  
4058     border: 1px solid silver ;  
4059     border-radius: 1ex ;  
4060     box-shadow: 3px 3px 3px #808080 ;  
4061 }  
4062  
4063  
4064 .example {  
4065     background-color: #f5f5eb ;  
4066     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);  
4067  
4068 }  
4069  
4070 div.exampletitle{  
4071     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
4072         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
4073         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
4074     font-weight:bold;  
4075     font-variant: small-caps ;  
4076     border-bottom: 1px solid silver ;  
4077     color: #304070 ;  
4078     text-align: center ;
```

```
4079     text-shadow: 1px 1px 2px #808080;
4080 }
4081
4082
4083 .sidebar {
4084     background-color: #f5f5eb ;
4085     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4086
4087 }
4088
4089 div.sidebartitle{
4090     font-family: "URW Classico", Optima, "Linux Biolinum O",
4091         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4092         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4093     font-weight:bold;
4094     font-variant: small-caps ;
4095     border-bottom: 1px solid silver ;
4096     color: #304070 ;
4097     text-align: center ;
4098     text-shadow: 1px 1px 2px #808080;
4099 }
4100
4101
4102 .fancyvrblabel {
4103     font-family: "URW Classico", Optima, "Linux Biolinum O",
4104         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
4105         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4106     font-weight:bold;
4107     font-variant: small-caps ;
4108     font-size: 1.5em ;
4109     color: #304070 ;
4110     text-align: center ;
4111     text-shadow: 1px 1px 2px #808080;
4112 }
4113
4114 div.minipage {
4115     background-color: #eeeeee7 ;
4116     border: 1px solid silver ;
4117     border-radius: 1ex ;
4118 }
4119
4120 table div.minipage { background: none ; border: none ; }
4121
4122 div.framebox div.minipage {border:none ; background:none}
4123
4124 section.textbody > div.minipage {
4125     box-shadow: 3px 3px 3px #808080 ;
4126 }
4127
4128 div.fboxBlock div.minipage { box-shadow: none ; }
4129
4130 .framed .minipage , .framedleftbar .minipage {
4131     border: none ;
4132     background: none ;
4133     padding: 0ex ;
```

```
4134     margin: 0ex ;
4135 }
4136
4137 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4138
4139 div.marginblock div.minipage ,
4140 div.marginparblock div.minipage
4141     { border: none; }
4142
4143 figure , div.marginblock {
4144     background-color: #eeeeee7 ;
4145     border: 1px solid silver ;
4146     border-radius: 1ex ;
4147     box-shadow: 3px 3px 3px #808080 ;
4148 }
4149
4150 figure figure {
4151     border: 1px solid silver ;
4152     margin: 0em ;
4153     box-shadow: none ;
4154 }
4155
4156 /*
4157 div.figurecaption {
4158     border-top: 1px solid silver ;
4159     border-bottom: 1px solid silver ;
4160     background-color: #e8e8e8 ;
4161 }
4162 */
4163
4164
4165 div.table {
4166     box-shadow: 3px 3px 3px #808080 ;
4167 }
4168
4169 /*
4170 .tnotes {
4171     background: #e8e8e8;
4172     border: 1px solid silver;
4173 }
4174 */
4175
4176
4177 nav.topnavigation{
4178     background-color: #b0b8b0 ;
4179     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4180 }
4181
4182 nav.botnavigation{
4183     background-color: #b0b8b0 ;
4184     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4185 }
4186
4187
4188
```

```
4189 header{  
4190     background-color: #F7F7F0 ;  
4191     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);  
4192 }  
4193  
4194 footer{  
4195     background-color: #F7F7F0 ;  
4196     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);  
4197 }  
4198  
4199  
4200  
4201 div.sidetoccontainer {  
4202     background-color: #F7F7F0 ;  
4203     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);  
4204     box-shadow: 3px 3px 3px #808080 ;  
4205 }  
4206  
4207 div.sidetotitle {color: #304070 ; }  
4208  
4209 nav.sidetoc a:hover {  
4210     color:#006000 ;  
4211     text-decoration: none ;  
4212     text-shadow:0px 0px 2px #a0a0a0;  
4213 }  
4214  
4215  
4216 @media screen and (max-width: 45em) {  
4217     div.sidetoccontainer { border-radius: 0 ; }  
4218 }  
4219  
4220  
4221 \end{filecontents*}  
4222 % \end{Verbatim}% for syntax highlighting  
4223 \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:**

```
4224 \begin{LWRwriteconf}  
4225 \begin{filecontents*}[overwrite]{lwarp_formal.css}  
4226 @import url("lwarp.css") ;  
4227  
4228  
4229  
4230 A:link {color:#802020 ; text-decoration:none; }  
4231 A:visited {color:#802020 ; text-decoration:none ;}  
4232 A:hover {color:#400000 ; text-decoration:none ;}  
4233 A:active {color:#C00000 ; text-decoration:none ;}  
4234
```

```
4235
4236 body {
4237     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4238         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4239         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4240         "Times New Roman", serif;
4241     background: #fffcf5;
4242 }
4243
4244 span.textrm {
4245     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4246         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4247         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4248         "Times New Roman", serif;
4249 }
4250
4251 span.textsf {
4252     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4253         Geneva, Verdana, sans-serif ;
4254 }
4255
4256
4257
4258 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4259 {
4260     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4261         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4262         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4263         "Times New Roman", serif;
4264     color: #800000 ;
4265     text-shadow: none ;
4266 }
4267
4268 h1, h2 {
4269     background-color: #fffcf5 ;
4270     background-image: none ;
4271     border-bottom: 1px solid #808080;
4272 /*     border-top: 2px solid #808080; */
4273 }
4274
4275 div.abstracttitle {
4276     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4277         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4278         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4279         "Times New Roman", serif;
4280     color: black ;
4281     text-shadow: none ;
4282 }
4283
4284 span.abstractrunintitle {
4285     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4286         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4287         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4288         "Times New Roman", serif;
4289     color: black ;
```

```
4290     text-shadow: none ;
4291 }
4292
4293 div.abstract { font-size: 100% }
4294
4295 .sidebar {
4296     background: #ffffcf;
4297     background-image: none ;
4298     margin: 2em 5% 2em 5%;
4299     padding: 0.5em 1em;
4300     border: none ;
4301     border-top : 1px solid silver;
4302     border-bottom : 1px solid silver;
4303     font-size: 90% ;
4304 }
4305
4306 div.sidebartitle{
4307     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4308         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4309         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4310         "Times New Roman", serif;
4311     color: #800000 ;
4312     text-shadow: none ;
4313     border: none ;
4314 }
4315
4316 .example {
4317     background: #ffffcf;
4318     background-image: none ;
4319     margin: 2em 5% 2em 5%;
4320     padding: 0.5em 1em;
4321     border: none ;
4322     border-top : 1px solid silver;
4323     border-bottom : 1px solid silver;
4324 }
4325
4326 div.exampletitle{
4327     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4328         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4329         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4330         "Times New Roman", serif;
4331     color: #800000 ;
4332     text-shadow: none ;
4333     border: none ;
4334 }
4335
4336 div.fancyvrblabel{
4337     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4338         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4339         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4340         "Times New Roman", serif;
4341     color: #800000 ;
4342     text-shadow: none ;
4343     border: none ;
4344 }
```

```
4345
4346
4347
4348 figure {
4349     margin: 5ex 5% 5ex 5% ;
4350     padding: 1ex 1em 1ex 1em ;
4351     background-color: #ffffcf5 ;
4352     overflow-x: auto ;
4353     border: none ;
4354 /*     border-top: 1px solid silver; */
4355 /*     border-bottom: 1px solid silver; */
4356 }
4357
4358
4359 div.figurecaption , .lstlisting {
4360     border: none ;
4361 /*     border-top: 1px solid silver ; */
4362 /*     border-bottom: 1px solid silver ; */
4363     background-color: #ffffcf5 ;
4364 }
4365
4366 .tnotes {
4367     background: #ffffcf5 ;
4368     border-top: 1px solid silver ;
4369     border-bottom: 1px solid silver ;
4370 }
4371
4372 .theorem {
4373     background: none ;
4374 }
4375
4376 .minipage {
4377     background-color: #ffffcf5 ;
4378     border: none ;
4379 }
4380
4381 div.floatrow figure { border: none ; }
4382
4383 figure figure { border: none ; }
4384
4385
4386 nav.toc, nav.lof, nav.lot, nav.lol {
4387     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4388             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4389             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4390             "Times New Roman", serif;
4391 }
4392
4393 div.sidetoccontainer {
4394     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4395             "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4396             "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4397             "Times New Roman", serif;
4398     background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4399 }
```

```
4400
4401 div.sidetotitle{
4402     color: #800000 ;
4403 }
4404
4405 header{
4406     background-color: #e0e0e0 ;
4407     background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
4408     text-align:center ;
4409 }
4410
4411 footer{
4412     background-color: #e0e0e0 ;
4413     background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
4414     padding: 2ex 1em 2ex 1em ;
4415     text-align:left ;
4416 }
4417
4418 nav.botnavigation {
4419     background: #dedcd5 ;
4420     border-top: 1px solid black ;
4421 }
4422 \end{filecontents*}
4423 % \end{Verbatim}% for syntax highlighting
4424 \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:**

```
4425 \begin{LWRwriteconf}
4426 \begin{filecontents*}[overwrite]{sample_project.css}
4427 /* ( --- Start of project.css --- ) */
4428 /* ( --- A sample project-specific CSS file for lwarp --- ) */
4429
4430 /* Uncomment one of the following: */
4431 @import url("lwarp.css") ;
4432 /* @import url("lwarp_formal.css") ; */
4433 /* @import url("lwarp_sagebrush.css") ; */
4434
4435 /* Project-specific CSS setting follow here. */
4436 /* . . . */
4437
4438 /* ( --- End of project.css --- ) */
4439 \end{filecontents*}
4440 % \end{Verbatim}% for syntax highlighting
4441 \end{LWRwriteconf}
```

## 40.8 lwarf.ist

File lwarf.ist Used to modify the index for lwarf.

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: 4442 \begin{LWRwriteconf}
4443 \begin{filecontents*}[overwrite]{lwarf.ist}
4444 preamble
4445 "\\begin{theindex}
4446 \\providecommand*\\lettergroupDefault[1]{}
4447 \\providecommand*\\lettergroup[1]{%
4448     \\par\\textbf{\#1}\\par
4449     \\nopagebreak
4450 }
4451 "
4452 headings_flag 1
4453 heading_prefix "
4454 \\lettergroup{"
4455 heading_suffix "}"
4456 delim_0 ", \\hyperindexref{"
4457 delim_1 ", \\hyperindexref{"
4458 delim_2 ", \\hyperindexref{"
4459 delim_n "}, \\hyperindexref{"
4460 delim_r "} -- \\hyperindexref{"
4461 delim_t "}"
4462 page_compositor "."
4463 \end{filecontents*}
4464 % \end{Verbatim} for syntax highlighting
4465 \end{LWRwriteconf}
```

## 40.9 lwarf.xdy

File lwarf.xdy Used to modify the index for lwarf.

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: 4466 \begin{LWRwriteconf}
4467 \begin{filecontents*}[overwrite]{lwarf.xdy}
4468 (require "tex/inputenc/latin.xdy")
4469 (merge-rule "\\PS *" "Postscript")
4470 (require "texindy.xdy")
4471 (require "page-ranges.xdy")
4472 (require "book-order.xdy")
4473 (define-location-class "arabic-page-numbers"
```

```

4474      ("arabic-numbers") :min-range-length 1)
4475 (require "makeindex.xdy")
4476 (define-attributes (("hyperindexref")))
4477 (markup-locref :open "\hyperindexref{" :close "}")
4478 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4479 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4480 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4481 (define-location-class-order ("roman-page-numbers"
4482                         "arabic-page-numbers"
4483                         "alpha-page-numbers"
4484                         "Roman-page-numbers"
4485                         "Alpha-page-numbers"
4486                         "see"
4487                         "seealso"))
4488 \end{filecontents*}
4489 % \end{Verbatim}% for syntax highlighting
4490 \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:**

```

4491 \begin{LWRwriteconf}
4492 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4493 \immediate\write\LWR@quickfile{%
4494     pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4495     \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4496 }
4497 \immediate\write\LWR@quickfile{%
4498     pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4499     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4500 }
4501 \immediate\write\LWR@quickfile{%
4502     pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4503     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4504 }
4505 \immediate\write\LWR@quickfile{%
4506     del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4507 }
4508 \immediate\write\LWR@quickfile{%
4509     del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4510 }
4511 \immediate\write\LWR@quickfile{exit}
4512 \immediate\closeout\LWR@quickfile

```

---

```
4513 \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:**

```
4514 \begin{LWRwriteconf}
4515 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4516 <script>
4517 // Lwarp MathJax emulation code
4518 //
4519 // Based on code by Davide P. Cervone.
4520 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4521 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4522 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4523 //
4524 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4525 //
4526 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4527 // subequations? is 0 usually, 1 if inside subequations.
4528 // section is a string printed as-is, or empty.
4529 // number is auto-incremented by MathJax between equations.
4530 //
4531 MathJax = {
4532   subequations: "0",
4533   section: "",
4534   loader: {
4535     load: ['[tex]/tagformat', '[tex]/textmacros'],
4536   },
4537   startup: {
4538     ready() {
4539       // These would be replaced by import commands if you wanted to make
4540       // a proper extension.
4541       const Configuration = MathJax._.input.tex.Configuration.Configuration;
4542       const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4543       const Macro = MathJax._.input.tex.Symbol.Macro;
4544       const TexError = MathJax._.input.tex.TexError.default;
4545       const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4546       const expandable = MathJax._.util.Options.expandable;
4547
4548       // Insert the replacement string into the TeX string, and check
4549       // that there haven't been too many maxro substitutions (prevents
```

```
4550    // infinite loops).
4551    const useArgument = (parser, text) => {
4552        parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4553        parser.i = 0;
4554        if (++parser.macroCount > parser.configuration.options.maxMacros) {
4555            throw new TexError('MaxMacroSub1',
4556                'MathJax maximum macro substitution count exceeded; ' +
4557                'is there a recursive macro call?');
4558        }
4559    }
4560
4561    // Create the command map for:
4562    //   \ifstar, \ifnextchar, \ifblank, \ifstrequal, \seteqnumber
4563    new CommandMap('Lwarp-macros', {
4564        ifstar: 'IfstarFunction',
4565        ifnextchar: 'IfnextcharFunction',
4566        ifblank: 'IfblankFunction',
4567        ifstrequal: 'IfstrequalFunction',
4568        seteqnumber: 'SeteqnumberFunction'
4569    }, {
4570        // This function implements an ifstar macro.
4571        IfstarFunction(parser, name) {
4572            const resultstar = parser.GetArgument(name);
4573            const resultnostar = parser.GetArgument(name);
4574            const star = parser.GetStar(); // true if there is a *
4575            useArgument(parser, star ? resultstar : resultnostar);
4576        },
4577
4578        // This function implements an ifnextchar macro.
4579        IfnextcharFunction(parser, name) {
4580            let whichchar = parser.GetArgument(name);
4581            if (whichchar.match(/^(:?0x[0-9A-F]+|[0-9]+)$/)i)) {
4582                // $ syntax highlighting
4583                whichchar = String.fromCodePoint(parseInt(whichchar));
4584            }
4585            const resultnextchar = parser.GetArgument(name);
4586            const resultnotnextchar = parser.GetArgument(name);
4587            const gotchar = (parser.GetNext() === whichchar);
4588            useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4589        },
4590
4591        // This function implements an ifblank macro.
4592        IfblankFunction(parser, name) {
4593            const blankarg = parser.GetArgument(name);
4594            const resultblank = parser.GetArgument(name);
4595            const resultnotblank = parser.GetArgument(name);
4596            const isblank = (blankarg.trim() == "");
4597            useArgument(parser, isblank ? resultblank : resultnotblank);
4598        },
4599
4600        // This function implements an ifstrequal macro.
4601        IfstrequalFunction(parser, name) {
4602            const strequalfirst = parser.GetArgument(name);
4603            const strequalsecond = parser.GetArgument(name);
4604            const resultequal = parser.GetArgument(name);
```

```
4605         const resultnotequal = parser.GetArgument(name);
4606         const isequal = (strequalfirst == strequalsecond);
4607         useArgument(parser, isequal ? resultnotequal : resultnotequal);
4608     },
4609
4610     // This function modifies the equation numbers.
4611     SeteqnumberFunction(parser, name) {
4612         // Get the macro parameters
4613         const star = parser.GetStar(); // true if there is a *
4614         const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4615         const newsubequations = parser.GetArgument(name); // the subequations argument
4616         const neweqsection = parser.GetArgument(name); // the eq section argument
4617         const neweqnumber = parser.GetArgument(name); // the eq number argument
4618         MathJax.config.subequations=newsubequations; // a string with boolean meaning
4619         MathJax.config.section=neweqsection; // a string with numeric meaning
4620         parser.tags.counter = parser.tags.allCounter = neweqnumber;
4621     }
4622
4623 });
4624
4625 // Create the Lwarp-macros package
4626 Configuration.create('Lwarp-macros', {
4627     handler: {macro: ['Lwarp-macros']}
4628 });
4629
4630 MathJax.startup.defaultReady();
4631
4632 // For forward references:
4633 MathJax.startup.input[0].preFilters.add(({math}) => {
4634     if (math.inputData.recompile){
4635         MathJax.config.subequations = math.inputData.recompile.subequations;
4636         MathJax.config.section = math.inputData.recompile.section;
4637     }
4638 });
4639 MathJax.startup.input[0].postFilters.add(({math}) => {
4640     if (math.inputData.recompile){
4641         math.inputData.recompile.subequations = MathJax.config.subequations;
4642         math.inputData.recompile.section = MathJax.config.section;
4643     }
4644 });
4645
4646 // For \left, \right with unicode-math:
4647 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4648 const {Symbol} = MathJax._.input.tex.Symbol;
4649 const {MapHandler} = MathJax._.input.tex.MapHandler;
4650 const delimiter = MapHandler.getMap('delimiter');
4651 delimiter.add('\\lBrack', new Symbol('\\lBrack', '\u27E6'));
4652 delimiter.add('\\rBrack', new Symbol('\\rBrack', '\u27E7'));
4653 delimiter.add('\\lAngle', new Symbol('\\lAngle', '\u27EA'));
4654 delimiter.add('\\rAngle', new Symbol('\\rAngle', '\u27EB'));
4655 delimiter.add('\\lbrbrak', new Symbol('\\lbrbrak', '\u2772'));
4656 delimiter.add('\\rbrbrak', new Symbol('\\rbrbrak', '\u2773'));
4657 delimiter.add('\\lbag', new Symbol('\\lbag', '\u27C5'));
4658 delimiter.add('\\rbag', new Symbol('\\rbag', '\u27C6'));
4659 delimiter.add('\\llparenthesis', new Symbol('\\llparenthesis', '\u2987'));
```

```
4660     delimiter.add('\\rrparenthesis', new Symbol('\\rrparenthesis', '\u2988'));
4661     delimiter.add('\\llangle', new Symbol('\\llangle', '\u2989'));
4662     delimiter.add('\\rrangle', new Symbol('\\rrangle', '\u298A'));
4663     delimiter.add('\\Lbrbrak', new Symbol('\\Lbrbrak', '\u27EC'));
4664     delimiter.add('\\Rbrbrak', new Symbol('\\Rbrbrak', '\u27ED'));
4665     delimiter.add('\\lBrace', new Symbol('\\lBrace', '\u2983'));
4666     delimiter.add('\\rBrace', new Symbol('\\rBrace', '\u2984'));
4667     delimiter.add('\\lParen', new Symbol('\\lParen', '\u2985'));
4668     delimiter.add('\\rParen', new Symbol('\\rParen', '\u2986'));
4669     delimiter.add('\\lbrackubar', new Symbol('\\lbrackubar', '\u298B'));
4670     delimiter.add('\\rbrackubar', new Symbol('\\rbrackubar', '\u298C'));
4671     delimiter.add('\\lbrackultick', new Symbol('\\lbrackultick', '\u298D'));
4672     delimiter.add('\\rbracklrtick', new Symbol('\\rbracklrtick', '\u298E'));
4673     delimiter.add('\\lbracklrltick', new Symbol('\\lbracklrltick', '\u298F'));
4674     delimiter.add('\\rbracklrltick', new Symbol('\\rbracklrltick', '\u2990'));
4675     delimiter.add('\\langledot', new Symbol('\\langledot', '\u2991'));
4676     delimiter.add('\\rangledot', new Symbol('\\rangledot', '\u2992'));
4677     delimiter.add('\\lparenless', new Symbol('\\lparenless', '\u2993'));
4678     delimiter.add('\\rparengtr', new Symbol('\\rparengtr', '\u2994'));
4679     delimiter.add('\\Lparengtr', new Symbol('\\Lparengtr', '\u2995'));
4680     delimiter.add('\\Rparenless', new Symbol('\\Rparenless', '\u2996'));
4681     delimiter.add('\\lblkbrbrak', new Symbol('\\lblkbrbrak', '\u2997'));
4682     delimiter.add('\\rblkbrbrak', new Symbol('\\rblkbrbrak', '\u2998'));
4683     delimiter.add('\\lvzigzag', new Symbol('\\lvzigzag', '\u29D8'));
4684     delimiter.add('\\rvzigzag', new Symbol('\\rvzigzag', '\u29D9'));
4685     delimiter.add('\\Lvzigzag', new Symbol('\\Lvzigzag', '\u29DA'));
4686     delimiter.add('\\Rvzigzag', new Symbol('\\Rvzigzag', '\u29DB'));
4687     delimiter.add('\\lcurvyangle', new Symbol('\\lcurvyangle', '\u29FC'));
4688     delimiter.add('\\rcurvyangle', new Symbol('\\rcurvyangle', '\u29FD'));
4689     delimiter.add('\\Vvert', new Symbol('\\Vvert', '\u2980'));
4690 } // ready
4691 }, // startup
4692
4693 tex: {
4694     packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4695     tags: "ams",
4696     tagformat: {
4697         number: function (n) {
4698             if(MathJax.config.subequations==0)
4699                 return(MathJax.config.section + n);
4700             else
4701                 return(MathJax.config.section + String.fromCharCode(96+n));
4702         },
4703     },
4704 },
4705 }
4706 </script>
4707
4708 <script
4709     id="MathJax-script"
4710     src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-chtml.js"
4711 ></script>
4712 \end{filecontents*}
4713 % \end{Verbatim}% for syntax highlighting
4714 \end{LWRwriteconf}
```

## 40.12 `lwarpmk.lua` — `lwarpmk` option

|                     |                      |                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Opt                 | <code>lwarpmk</code> | Creates a local copy of <code>lwarpmk</code> .                                                                                                                                                                                                                                                                                                                                         |
| Prog                | <code>lwarpmk</code> | Command-line utility to process <code>l warp</code> files and images.                                                                                                                                                                                                                                                                                                                  |
| parallel processing |                      | <code>lateximages</code> and <code>SVG</code> math images are generated using multiple processes in parallel. For <code>UNIX</code> and <code>LINUX</code> , 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 <code>WINDOWS</code> , 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 `l warp`.

```
4715 \begin{LWRcreatelwarpmk}

4716 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4717 #!/usr/bin/env texlua
4718
4719 -- Copyright 2016–2021 Brian Dunn
4720
4721
4722 printversion = "v0.900"
4723 requiredconfversion = "2" -- also at *lwarpmk.conf
4724
4725 function printhelp ()
4726 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4727 end
4728
4729
4730 function printusage ()
4731 --
4732 -- Print the usage of the lwarpmk command:
4733 --
4734 print ( [[
4735
4736 lwarpmk print [-p project]: Compile the print version if necessary.
4737 lwarpmk print1 [-p project]: Forced single compile of the print version.
4738 lwarpmk printindex [-p project]: Process print indexes.
4739 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4740 lwarpmk html [-p project]: Compile the HTML version if necessary.
4741 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4742 lwarpmk htmlindex [-p project]: Process HTML indexes.
4743 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4744 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4745 lwarpmk limages [-p project]: Process the "lateximages" created by larp.sty.
4746 lwarpmk pdftohtml [-p project]:
4747     For use with latexmk or a Makefile:
4748     Converts project_html.pdf to project_html.html and individual HTML files.
4749     Finishes the HTML conversion even if there was a compile error.
```

```
4750 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4751 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4752 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4753     *.idx, *.ind, *.bb1, *.log, *_html_inc.*., .gl*,
4754     *_html.pdf, *_html.html, *_html.sidetoc
4755 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4756 lwarpmk cleanimages: Removes all images from the "lateximages" directory.
4757 lwarpmk -v: Print the version number.
4758 lwarpmk -h: Print this help message.
4759 lwarpmk --help: Print this help message.
4760
4761 ]] )
4762 -- printconf ()
4763 end
4764
4765
4766 function splitfilename ( pathandfilename )
4767 --
4768 -- Separates out the path and extension from a filename.
4769 -- Returns path, filename with extension, and extension.
4770 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4771 --
4772 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4773 --     split_filename_in_to_path_filename_and_extension
4774 --
4775     if lfs.attributes(pathandfilename,"mode") == "directory" then
4776         local strPath = pathandfilename:gsub("[\\/]$","",) -- $ (syntax highlighting)
4777         return strPath.."\\",""
4778     end
4779     pathandfilename = pathandfilename..
4780     return pathandfilename:match("^(.-)([\\/]-%.(%.[^\\/.]-)%.)?$")
4781 end
4782
4783
4784 function splitfile (destfile,sourcefile)
4785 --
4786 -- Split one large sourcefile into a number of files,
4787 -- starting with destfile.
4788 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4789 -- If lwarp is in use, sets usingl warp.
4790 --
4791 usingl warp = false ;
4792 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4793 local sfile = io.open(sourcefile)
4794 io.output(destfile)
4795 for line in sfile:lines() do
4796 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|");
4797 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4798     -- split the file
4799     io.output(newfilename) ;
4800 else
4801 if ( (i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4802     -- verified the use of \usepackage{lwarp}
4803     usingl warp = true ;
4804 else
```

```
4805      -- not a splitpoint
4806      io.write (line .. "\n") ;
4807 end end
4808 end -- do
4809 io.close(sfile)
4810 if ( usingl warp == false ) then
4811     print ("l warp mk: ===")
4812     print ("l warp mk: \\usepackage{l warp} was not detected.")
4813     print ("l warp mk: The HTML output will not be correct.")
4814     print ("l warp mk: Ensured that \\usepackage{l warp} is enabled,")
4815     print ("l warp mk: then l warp mk print and l warp mk html again.")
4816     print ("l warp mk: ===")
4817 end
4818 end -- function
4819
4820
4821 function cvalueerror ( line, linenum , cvalue )
4822 --
4823 -- Incorrect value, so print an error and exit.
4824 --
4825     print ("l warp mk: ===")
4826     print ("l warp mk: " .. linenum .. " : " .. line ) ;
4827     print (
4828         "l warp mk: incorrect variable value \"\" .. cvalue ..
4829         "\" in l warp mk.conf.\n"
4830     ) ;
4831     print ("l warp mk: ===")
4832 --     printconf () ;
4833     os.exit(1) ;
4834 end
4835
4836
4837 function printhowtorecompile ()
4838 -- Tells the user how to recompile to regenerate the configuration files.
4839     print ("l warp mk: The configuration files l warp mk.conf and "..sourcename.."l warp mkconf" )
4840     print ("l warp mk: must be updated. To do so, recompile" )
4841     print ("l warp mk: " , sourcename.."tex" )
4842     if ( printlatexcmd == "" ) then
4843         print ("l warp mk: using xe/lua/pdflatex," )
4844     else
4845         print ("l warp mk: using the command:")
4846         print ("l warp mk: " , printlatexcmd )
4847     end
4848     print ("l warp mk: then use l warp mk again.")
4849 end -- printhowtorecompile
4850
4851
4852 function ignoreconf ()
4853 -- Global argument index
4854 argindex = 2
4855 end
4856
4857 function loadconf ()
4858 --
4859 -- Load settings from the project's "l warp mk.conf" file:
```

```
4860 --
4861 -- Default configuration filename:
4862 local conffile = "lwarpmk.conf"
4863 local confroot = "lwarpmk"
4864 -- Global argument index
4865 argindex = 2
4866 -- Optional configuration filename:
4867 if ( arg[argindex] == "-p" ) then
4868     argindex = argindex + 1
4869     confroot = arg[argindex]
4870     conffile = confroot.."lwarpmkconf"
4871     argindex = argindex + 1
4872 end
4873 -- Additional defaults:
4874 confversion = "0"
4875 opsystem = "Unix"
4876 imagesdirectory = "lateximages"
4877 imagesname = "image-"
4878 latexmk = "false"
4879 printlatexcmd = ""
4880 HTMLLatexcmd = ""
4881 printindexcmd = ""
4882 HTMLIndexcmd = ""
4883 latexmkindexcmd = ""
4884 -- to be removed:
4885 -- indexprog = "makeindex"
4886 -- makeindexstyle = "lwarp.ist"
4887 -- xindylanguage = "english"
4888 -- xindycodepage = "utf8"
4889 -- xindystyle = "lwarp.xdy"
4890 -- pdftotextenc = "UTF-8"
4891 glossarycmd = "makeglossaries"
4892 -- Verify the file exists:
4893 if (lfs.attributes(conffile,"mode")==nil) then
4894     -- file not exists
4895     print ("lwarpmk: ===")
4896     print ("lwarpmk: File \".. conffile ..\" does not exist.")
4897     print ("lwarpmk: Move to the project's source directory,")
4898     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4899     print ("lwarpmk: then try using lwarpmk again.")
4900     if ( arg[argindex] ~= nil ) then
4901         print (
4902             "lwarpmk: (\".. confroot ..
4903             \" does not appear to be a project name.)"
4904         )
4905     end
4906     print ("lwarpmk: ===")
4907     printhelp () ;
4908     os.exit(1) -- exit the entire lwarpmk script
4909 else -- file exists
4910 -- Read the file:
4911 print ("lwarpmk: Reading .. conffile ..")
4912 local cfile = io.open(conffile)
4913 -- Scan each line, parsing each line as: name = [[string]]
4914 local linenum = 0
```

```
4915 for line in cfile.readlines() do -- scan lines
4916   linenum = linenum + 1
4917   i,j,cvarname,cvalue = string.find (line,"([%w-_]*%)%s*=%s*%[%([%^]*)>%]%)");
4918   -- Error if incorrect enclosing characters:
4919   if ( i == nil ) then
4920     print ("lwarpmk: ===")
4921     print ("lwarpmk: " .. linenum .. " : " .. line );
4922     print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n" );
4923     print ("lwarpmk: ===")
4924   --   printconf () ;
4925   os.exit(1) ;
4926 end -- nil
4927 if ( cvarname == "confversion" ) then
4928   confversion = cvalue
4929 elseif ( cvarname == "opsystem" ) then
4930   -- Verify choice of opsystem:
4931   if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
4932     opsystem = cvalue
4933   else
4934     cvalueerror ( line, linenum , cvalue )
4935   end
4936 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
4937 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
4938 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
4939 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
4940 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
4941 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
4942 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
4943 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
4944 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
4945 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
4946 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
4947 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
4948 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
4949 else
4950   print ("lwarpmk: ===")
4951   print ("lwarpmk: " .. linenum .. " : " .. line );
4952   print (
4953     "lwarpmk: Incorrect variable name \" .. cvarname .. \" in " ..
4954     conffile .. ".\n"
4955   ) ;
4956   print ("lwarpmk: ===")
4957   --   printconf () ;
4958 os.exit(1) ;
4959 end -- cvarname
4960 end -- do scan lines
4961 io.close(cfile)
4962 end -- file exists
4963 -- Error if sourcename is "lwarp".
4964 -- This could happen if a local copy of lwarp has recently been recompiled.
4965 if sourcename=="lwarp" then
4966   print ("lwarpmk: ===")
4967   print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4968   print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
4969   print ("lwarpmk: (Perhaps you are not in your project's directory?)")
```

```
4970     print ("lwarpmk: In your project directory, recompile your project")
4971     print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
4972     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4973     print ("lwarpmk: and you may again use lwarpmk.")
4974     print ("lwarpmk: ===")
4975     os.exit(1)
4976 end -- sourcename of "lwarp"
4977 -- Select some operating-system commands:
4978 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4979     rmname = "rm"
4980     mvname = "mv"
4981     cpname = "cp"
4982     touchnamepre = "touch"
4983     touchnamepost = ""
4984     newtouchname = "touch"
4985     dirslash = "/"
4986     opquote= "\\'"
4987     cmdgroupopenname = " ( "
4988     cmdgroupclosename = " ) "
4989     seqname = " && "
4990     bgname = " &"
4991 elseif opsystem=="Windows" then -- For Windows
4992     rmname = "DEL"
4993     mvname = "MOVE"
4994     cpname = "COPY"
4995     touchnamepre = "COPY /b"
4996     touchnamepost = "+,,"
4997     newtouchname = "echo empty >"
4998     dirslash = "\\\""
4999     opquote= "\\""
5000     cmdgroupopenname = ""
5001     cmdgroupclosename = ""
5002     seqname = " & "
5003     bgname = ""
5004 else
5005     print ("lwarpmk: ===")
5006     print ("lwarpmk: Select Unix or Windows for opsystem." )
5007     print ("lwarpmk: ===")
5008     os.exit(1)
5009 end --- for Windows
5010 -- Warning if the operating system does not appear to be correct,
5011 -- in case files were transferred to another system.
5012 if ( package.config:sub(1,1) ~= dirslash ) then
5013     print ("lwarpmk: ===")
5014     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )
5015     printhowtorecompile ()
5016     print ("lwarpmk: ===")
5017     os.exit(1)
5018 end
5019 -- Error if the configuration file's version is not current:
5020 if ( confversion ~= requiredconfversion ) then
5021     print ("lwarpmk: ===")
5022     printhowtorecompile ()
5023     print ("lwarpmk: ===")
5024     os.exit(1)
```

```
5025 end
5026 end -- loadconf
5027
5028
5029 function executecheckerror ( executecommands , errormessage )
5030 --
5031 -- Execute an operating system call,
5032 -- and maybe exit with an error message.
5033 --
5034 local err
5035 err = os.execute ( executecommands )
5036 if ( err ~= 0 ) then
5037     print ("lwarpmk: ===")
5038     print ("lwarpmk: " .. errormessage )
5039     print ("lwarpmk: ===")
5040     os.exit(1)
5041 end
5042 end -- executecheckerror
5043
5044
5045 function refreshdate ()
5046 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)
5047 end
5048
5049
5050
5051 function reruntoget (filesource)
5052 --
5053 -- Scan the LaTeX log file for the phrase "Rerun to get",
5054 -- indicating that the file should be compiled again.
5055 -- Return true if found.
5056 --
5057 local fsource = io.open(filesource)
5058 for line in fsource:lines() do
5059 if ( string.find(line,"Rerun to get") ~= nil ) then
5060     io.close(fsource)
5061     return true
5062 end -- if
5063 end -- do
5064 io.close(fsource)
5065 return false
5066 end
5067
5068
5069
5070 function onetime (latexcmd, fsuffix)
5071 --
5072 -- Compile one time, return true if should compile again.
5073 -- fsuffix is "" for print, "_html" for HTML output.
5074 --
5075 print("lwarpmk: Compiling with: " .. latexcmd)
5076 executecheckerror (
5077     latexcmd ,
5078     "Compile error."
5079 )
```

```
5080 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
5081 end
5082
5083
5084 function manytimes (latexcmd, fsuffix)
5085 --
5086 -- Compile up to five times.
5087 -- fsuffix is "" for print, "_html" for HTML output
5088 --
5089 if onetime(latexcmd, fsuffix) == true then
5090 if onetime(latexcmd, fsuffix) == true then
5091 if onetime(latexcmd, fsuffix) == true then
5092 if onetime(latexcmd, fsuffix) == true then
5093 if onetime(latexcmd, fsuffix) == true then
5094 end end end end
5095 end
5096
5097
5098 function verifyfileexists (filename)
5099 --
5100 -- Exit if the given file does not exist.
5101 --
5102 if (lfs.attributes ( filename , "modification" ) == nil ) then
5103     print ("lwarpmk: ===")
5104     print ("lwarpmk: " .. filename .. " not found." ) ;
5105     print ("lwarpmk: ===")
5106     os.exit (1) ;
5107 end
5108 end
5109
5110
5111
5112 function pdftohtml ()
5113 --
5114 -- Convert <project>_html.pdf into HTML files:
5115 --
5116 -- Convert to text:
5117 print ("lwarpmk: Converting " .. sourcename
5118     .."_html.pdf to " .. sourcename .. "_html.html")
5119 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5120     .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5121 -- Split the result into individual HTML files:
5122 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5123 end
5124
5125
5126 function removeaux ()
5127 --
5128 -- Remove auxiliary files:
5129 -- All .aux files are removed since there may be many bbl*.aux files.
5130 -- Also removes sourcename_html.pdf, sourcename_html.html,
5131 -- and sourcename_html.sidetoc, plus comment_*_cut.
5132 --
5133 os.execute ( rmname .. " *.aux " ..
5134     sourcename ..".toc " .. sourcename .. "_html.toc " ..
```

```
5135     sourcename .. ".lof" .. sourcename .. "_html.lof" ..
5136     sourcename .. ".lot" .. sourcename .. "_html.lot" ..
5137     sourcename .. ".bbl" .. sourcename .. "_html.bbl" ..
5138     " *.idx" ..
5139     " *.ind" ..
5140     sourcename .. ".ps" .. sourcename .. "_html.ps" ..
5141     sourcename .. ".log" .. sourcename .. "_html.log" ..
5142     sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
5143     sourcename .. "_html.pdf" ..
5144     sourcename .. "_html.html" ..
5145     sourcename .. "_html.sidetoc" ..
5146     " *_html_inc.*" ..
5147     " comment_*_.cut"
5148   )
5149 end
5150
5151 function checkhtmlpdfexists ()
5152 --
5153 -- Error if the HTML document does not exist.
5154 -- The lateximages are drawn from the HTML PDF version of the document,
5155 -- so "lwarpmk html" must be done before "lwarpmk limages".
5156 --
5157 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5158 if ( htmlpdffile == nil ) then
5159   print ("")
5160   print ("lwarpmk: ===")
5161   print ("lwarpmk: The HTML version of the document does not exist.")
5162   print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5163   print ("lwarpmk: ===")
5164   os.exit(1)
5165 end
5166 io.close (htmlpdffile)
5167 end -- checkhtmlpdfexists
5168
5169
5170 function warnlimages ()
5171 --
5172 -- Warning of a missing <sourcename>-images.txt file:
5173   print ("lwarpmk: ===")
5174   print ("lwarpmk: \" .. sourcename .. "-images.txt\" does not exist.")
5175   print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5176   print ("lwarpmk: or the file has been deleted somehow.")
5177   print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5178   print ("lwarpmk: and recreate \" .. sourcename .. "-images.txt\".")
5179   print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5180   print ("lwarpmk: then \" .. sourcename .. "-images.txt\" will never exist, and")
5181   print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5182   print ("lwarpmk: ===")
5183 end -- warnlimages
5184
5185
5186 function warnlimagesrecompile ()
5187 -- Warning if must recompile before creating limages:
5188   print ("")
5189   print ("lwarpmk: ===")
```

```
5190     print ("lwarpmk: Cross-references are not yet correct.")
5191     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5192     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5193     print ("lwarpmk: ===")
5194 end --warnlimagesrecompile
5195
5196
5197 function checklimages ()
5198 --
5199 -- Check <sourcename>.txt to see if need to recompile first.
5200 -- If any entry has a page number of zero, then there were incorrect images.
5201 --
5202 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5203 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5204 if ( limagesfile == nil ) then
5205     warnlimages ()
5206     os.exit(1)
5207 end
5208 -- Track warning to recompile if find a page 0
5209 local pagezerowarning = false
5210 -- Scan <sourcename>.txt
5211 for line in limagesfile:lines() do
5212     -- lwimgpage is the page number in the PDF which has the image
5213     -- lwimghash is true if this filename is a hash
5214     -- lwimgname is the lateximage filename root to assign for the image
5215     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5216     -- For each entry:
5217     if ( (i~=nil) ) then
5218         -- If the page number is 0, image references are incorrect
5219         -- and must recompile the source document:
5220         if ( lwimgpage == "0" ) then
5221             pagezerowarning = true
5222         end
5223     end -- if i~=nil
5224 end -- do
5225 -- The last line should be |end|end|end|.
5226 -- If not, the compile must have aborted, and the images are incomplete.
5227 if ( lwimgpage ~= "end" ) then
5228     warnlimagesrecompile()
5229     os.exit(1) ;
5230 end
5231 if ( pagezerowarning ) then
5232     warnlimagesrecompile()
5233     os.exit(1) ;
5234 end -- pagezerowarning
5235 end -- checklimages
5236
5237
5238 function createuniximage ( lwimgfullname )
5239 --
5240 -- Create one lateximage for Unix / Linux / Mac OS.
5241 --
5242 executecheckerror (
5243     cmdgroupopenname ..
5244     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
```

```
5245      sourcename .."_html.pdf" ..
5246      imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5247      seqname ..
5248      -- Crop the image:
5249      "pdfcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5250          lwimgpage .. ".pdf" ..
5251          imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5252          seqname ..
5253      -- Convert the image to svg:
5254      "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5255          imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5256          seqname ..
5257      -- Remove the temporary files:
5258      rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5259      rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5260      cmdgroupclose .. " >/dev/null " .. bgnname
5261      ,
5262      "File error trying to convert " .. lwimgfullname
5263 )
5264 -- Every 32 images, wait for completion at below normal priority,
5265 -- allowing other image tasks to catch up.
5266 numimageprocesses = numimageprocesses + 1
5267 if ( numimageprocesses > 32 ) then
5268     numimageprocesses = 0
5269     print ( "lwarpmk: waiting" )
5270     executecheckerror ( "wait" , "File error trying to wait." )
5271 end
5272 end -- createuniximage
5273
5274
5275 function createwindowsimage ( lwimgfullname )
5276 --
5277 -- Create one lateximage for Windows.
5278 --
5279 -- Every 32 images, wait for completion at below normal priority,
5280 -- allowing other image tasks to catch up.
5281 numimageprocesses = numimageprocesses + 1
5282 if ( numimageprocesses > 32 ) then
5283     numimageprocesses = 0
5284     thiswaitcommand = "/WAIT /BELOWNORMAL"
5285     print ( "lwarpmk: waiting" )
5286 else
5287     thiswaitcommand = ""
5288 end
5289 -- Execute the image generation command
5290 executecheckerror (
5291     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5292     lwimgpage .. " " ..
5293     lwimghash .. " " ..
5294     lwimgname .. " " ..
5295     sourcename .. " <nul >nul"
5296     ,
5297     "File error trying to create image."
5298 )
5299 end -- createwindowsimage
```

```
5300
5301
5302 function createonelateximage ( line )
5303 --
5304 -- Given the next line of <sourcename>.txt, convert a single image.
5305 --
5306 -- lwimgpage is the page number in the PDF which has the image
5307 -- lwimghash is true if this filename is a hash
5308 -- lwimgname is the lateximage filename root to assign for the image
5309 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5310 -- For each entry:
5311 if ( (i~=nil) ) then
5312     -- Skip if the page number is 0:
5313     if ( lwimgpage == "0" ) then
5314         pagezerowarning = true
5315     -- Skip if the page number is "end":
5316     else if ( lwimgpage == "end" ) then
5317         else
5318             -- Skip if this image is hashed and already exists:
5319             local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5320             if (
5321                 (lwimghash ~= "true") or
5322                 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5323             )
5324             then -- not hashed or not exists:
5325                 -- Print the name of the file being generated:
5326                 print ( "lwarpmk: " .. lwimgname )
5327                 -- Touch/create the dest so that only once instance tries to build it:
5328                 executecheckerror (
5329                     newtouchname .. " " .. lwimgfullname ,
5330                     "File error trying to touch " .. lwimgfullname
5331                 )
5332                 -- Separate out the image into its own single-page pdf:
5333                 if opsystem=="Unix" then
5334                     createuniximage (lwimgfullname)
5335                 elseif opsystem=="Windows" then
5336                     createwindowsimage (lwimgfullname)
5337                 end
5338                 end -- not hashed or not exists
5339             end -- not page "end"
5340             end -- not page 0
5341         end -- not nil
5342     end -- createonelateximage
5343
5344
5345 function createlateximages ()
5346 --
5347 -- Create lateximages based on <sourcename>-images.txt:
5348 --
5349 -- See if the document must be recompiled first:
5350 checklimages ()
5351 -- See if the HTML version exists:
5352 checkhtlpdfexists ()
5353 -- Attempt to create the lateximages:
5354 print ("lwarpmk: Creating lateximages.")
```

```
5355 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5356 if ( limagesfile == nil ) then
5357     warnlimages ()
5358     os.exit(1)
5359 end
5360 -- Create the lateximages directory, ignore error if already exists
5361 err = os.execute("mkdir " .. imagesdirectory)
5362 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5363 if opsystem=="Windows" then
5364     executecheckerror (
5365         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5366         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5367     )
5368 end -- create lwarp_one_limage.cmd
5369 -- Track the number of parallel processes
5370 numimageprocesses = 0
5371 -- Track warning to recompile if find a page 0
5372 pagezerowarning = false
5373 -- Scan <sourcename>.txt
5374 for line in limagesfile:lines() do
5375     createonelateximage ( line )
5376 end -- do
5377 io.close(limagesfile)
5378 print ( "lwarpmk limages: ===" )
5379 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5380 print ( "lwarpmk limages: before reloading the page." )
5381 print ( "lwarpmk limages: ===" )
5382 print ( "lwarpmk limages: Done." )
5383 if ( pagezerowarning == true ) then
5384     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5385     print ( "lwarpmk limages: Enter \"lwarpmk cleanimages\", then" )
5386     print ( "lwarpmk limages: recompile the document one more time, then" )
5387     print ( "lwarpmk limages: repeat \"lwarpmk images\" again." )
5388 end -- pagezerowarning
5389 end -- function
5390
5391
5392 function convertepstopdf ()
5393 --
5394 -- Converts EPS files to PDF files.
5395 -- The filenames are arg[argindex] and up.
5396 -- arg[1] is the command "epstopdf".
5397 --
5398 ignoreconf ()
5399 for i = argindex , #arg do
5400     if (lfs.attributes(arg[i],"mode")==nil) then
5401         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5402     else
5403         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5404         thispath, thisfilename, thisextension = splitfilename(arg[i])
5405         if ( thispath == nil ) then
5406             os.execute ( "epstopdf " .. arg[i] )
5407         else
5408             os.execute (
5409                 "epstopdf " ..
```

```
5410           thispath .. thisfilename .. "." .. thisextension .. " " ..
5411           thispath .. thisfilename .. ".pdf"
5412       )
5413   end
5414 end -- if
5415 end -- do
5416 end --function
5417
5418
5419 function convertpdftosvg ()
5420 --
5421 -- Converts PDF files to SVG files.
5422 -- The filenames are arg[argindex] and up.
5423 -- arg[1] is the command "pdftosvg".
5424 --
5425 ignoreconf ()
5426 for i = argindex , #arg do
5427   if (lfs.attributes(arg[i],"mode")==nil) then
5428     print ("lwarpmk: File \".. arg[i] .. \" does not exist.")
5429   else
5430     print ("lwarpmk: Converting \".. arg[i] .. \"")
5431     thispath, thisfilename, thisextension = splitfilename(arg[i])
5432     if ( thispath == nil ) then
5433       os.execute ( "pdftocairo -svg " .. arg[i] )
5434     else
5435       os.execute (
5436         "pdftocairo -svg " ..
5437         thispath .. thisfilename .. "." .. thisextension .. " " ..
5438         thispath .. thisfilename .. ".svg"
5439       )
5440     end
5441   end -- if
5442 end -- do
5443 end --function
5444
5445
5446 -- Force an update and conclude processing:
5447 function updateanddone ()
5448 print ("lwarpmk: Forcing an update of ".. sourcename .. ".tex.")
5449 refreshdate ()
5450 print ("lwarpmk: ".. sourcename .. ".tex is ready to be recompiled.")
5451 print ("lwarpmk: Done.")
5452 end -- function
5453
5454
5455 -- Start of the main code: --
5456
5457
5458 -- lwarpmk --version :
5459
5460 if (arg[1] == "--version") then
5461 print ( "lwarpmk: " .. printversion )
5462
5463 else -- not --version
5464
```

```
5465
5466 -- print intro:
5467
5468 print ("lwarpmk: .. printversion .. " Automated make for the LaTeX Lwarp package.")
5469
5470
5471 -- lwarpmk print:
5472
5473 if arg[1] == "print" then
5474   loadconf ()
5475 if ( latexmk == "true" ) then
5476   print ("lwarpmk: Compiling with: .. printlatexcmd")
5477   executecheckerror (
5478     printlatexcmd ,
5479     "Compile error."
5480   )
5481   print ("lwarpmk: Done.")
5482 else -- not latexmk
5483   verifyfileexists (sourcename .. ".tex") ;
5484   -- See if up to date:
5485   if (
5486     ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5487     (
5488       lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5489       lfs.attributes ( sourcename .. ".pdf" , "modification" )
5490     )
5491   ) then
5492     -- Recompile if not yet up to date:
5493     manytimes(printlatexcmd, "")
5494     print ("lwarpmk: Done.") ;
5495   else
5496     print ("lwarpmk: .. sourcename .. ".pdf is up to date.") ;
5497   end
5498 end -- not latexmk
5499
5500
5501 -- lwarpmk print1:
5502
5503 elseif arg[1] == "print1" then
5504   loadconf ()
5505   verifyfileexists (sourcename .. ".tex") ;
5506   onetime(printlatexcmd, "")
5507   print ("lwarpmk: Done.") ;
5508
5509
5510 -- lwarpmk printindex:
5511 -- Compile the index then touch the source
5512 -- to trigger a recompile of the document:
5513
5514 elseif arg[1] == "printindex" then
5515   loadconf ()
5516   os.execute ( printindexcmd )
5517   print ("lwarpmk: -----")
5518   updateanddone ()
5519
```

```
5520
5521 -- lwarpmk printglossary:
5522 -- Compile the glossary then touch the source
5523 -- to trigger a recompile of the document:
5524
5525 elseif arg[1] == "printglossary" then
5526 loadconf ()
5527 print ("lwarpmk: Processing the glossary.")
5528
5529 os.execute(glossarycmd .. " " .. sourcename)
5530 updateanddone ()
5531
5532
5533 -- lwarpmk html:
5534
5535 elseif arg[1] == "html" then
5536 loadconf ()
5537 if ( latexmk == "true" ) then
5538     print ("lwarpmk: Compiling with: " .. HTMLLatexcmd)
5539     executecheckerror (
5540         HTMLLatexcmd ,
5541         "Compile error."
5542     )
5543     pdftohtml ()
5544     print ("lwarpmk: Done.")
5545 else -- not latexmk
5546     verifyfileexists ( sourcename .. ".tex" ) ;
5547     -- See if exists and is up to date:
5548     if (
5549         lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5550         (
5551             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5552             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5553         )
5554     ) then
5555         -- Recompile if not yet up to date:
5556         manytimes(HTMLLatexcmd, "_html")
5557         pdftohtml ()
5558         print ("lwarpmk: Done.")
5559     else
5560         print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5561     end
5562 end -- not latexmk
5563
5564
5565 -- lwarpmk html1:
5566
5567 elseif arg[1] == "html1" then
5568     loadconf ()
5569     verifyfileexists ( sourcename .. ".tex" ) ;
5570     onetime(HTMLLatexcmd, "_html")
5571     pdftohtml ()
5572     print ("lwarpmk: Done.")
5573
5574
```

```
5575 -- lwarpmk pdftohtml:
5576 elseif arg[1] == "pdftohtml" then
5577     loadconf ()
5578     pdftohtml ()
5579
5580
5581 -- lwarpmk htmlindex:
5582 -- Compile the index then touch the source
5583 -- to trigger a recompile of the document:
5584
5585 elseif arg[1] == "htmlindex" then
5586 loadconf ()
5587 os.execute ( HTMLIndexcmd )
5588 print ("lwarpmk: -----")
5589 updateanddone ()
5590
5591
5592 -- lwarpmk htmlglossary:
5593 -- Compile the glossary then touch the source
5594 -- to trigger a recompile of the document.
5595 -- The <sourcename>.xdy file is created by the glossaries package.
5596
5597 elseif arg[1] == "htmlglossary" then
5598 loadconf ()
5599 print ("lwarpmk: Processing the glossary.")
5600 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5601 updateanddone ()
5602
5603
5604 -- lwarpmk limages:
5605 -- Scan the <sourcename>.txt file to create lateximages.
5606
5607 elseif arg[1] == "limages" then
5608 loadconf ()
5609 print ("lwarpmk: Processing images.")
5610 createlateximages ()
5611 print ("lwarpmk: Done.")
5612
5613
5614 -- lwarpmk again:
5615 -- Touch the source to trigger a recompile.
5616
5617 elseif arg[1] == "again" then
5618 loadconf ()
5619 updateanddone ()
5620
5621
5622 -- lwarpmk clean:
5623 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*., .gl*
5624
5625 elseif arg[1] == "clean" then
5626 loadconf ()
5627 removeaux ()
5628 print ("lwarpmk: Done.")
5629
```

```
5630
5631 -- lwarpmk cleanall
5632 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5633 --     and also project.pdf, project.dvi, *.html
5634
5635 elseif arg[1] == "cleanall" then
5636 loadconf ()
5637 removeaux ()
5638 os.execute ( rmname .. " " ..
5639     sourcename .. ".pdf" .. sourcename .. "_html.pdf" ..
5640     sourcename .. ".dvi" .. sourcename .. "_html.dvi" ..
5641     "*.html"
5642 )
5643 print ("lwarpmk: Done.")
5644
5645
5646 -- lwarpmk cleanimages
5647 -- Remove images from the imagesdirectory.
5648
5649 elseif arg[1] == "cleanimages" then
5650 loadconf ()
5651 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5652 print ("lwarpmk: Done.")
5653
5654 -- lwarpmk epstopdf <list of file names>
5655 -- Convert EPS files to PDF using epstopdf
5656 elseif arg[1] == "epstopdf" then
5657 convertepstopdf ()
5658 print ("lwarpmk: Done.")
5659
5660
5661 -- lwarpmk pdftosvg <list of file names>
5662 -- Convert PDF files to SVG using pdftocairo
5663 elseif arg[1] == "pdftosvg" then
5664 convertpdftosvg ()
5665 print ("lwarpmk: Done.")
5666
5667
5668 -- lwarpmk with no argument :
5669
5670 elseif (arg[1] == nil) then
5671 printhelp ()
5672
5673
5674 -- lwarpmk -v:
5675
5676 elseif (arg[1] == "-v" ) then
5677 -- The version number has already been printed
5678 -- by the lwarpmk intro.
5679
5680 -- lwarpmk -h or lwarpmk --help :
5681
5682 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5683 printusage ()
5684
```

```

5685
5686 -- Unknown command:
5687
5688 else
5689 printhelp ()
5690 print ("\\nlwarpmk: ***** Unknown command \"..arg[1]..\". *****\\n")
5691 end
5692
5693 end -- not --version
5694 \end{filecontents*}
5695 % \end{Verbatim}% for syntax highlighting

5696 \end{LWRcreatelwarpmk}

```

## 41 Stacks

**for HTML output:** 5697 \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:

```
5698 \newcommand*\LWR@depthnone}{-5}
```

All sectioning depths are deeper than \LWR@depthfinished:

```

5699 \newcommand*\LWR@depthfinished}{-4}
5700 \newcommand*\LWR@depthbook}{-2}
5701 \newcommand*\LWR@depthpart}{-1}
5702 \newcommand*\LWR@depthchapter}{0}
5703 \newcommand*\LWR@depthsection}{1}
5704 \newcommand*\LWR@depthsubsection}{2}
5705 \newcommand*\LWR@depthsubsubsection}{3}
5706 \newcommand*\LWR@depthparagraph}{4}
5707 \newcommand*\LWR@depth subparagraph}{5}

```

Used by \itemize, \enumerate, \description:

---

5708 \newcommand\*{\LWR@depthlist}{6}

Used by \item:

5709 \newcommand\*{\LWR@depthlistitem}{7}  
 5710 \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.

5711 \newcommand\*{\LWR@closeone}{}% top of the stack  
 5712 \newcommand\*{\LWR@closetwo}{}  
 5713 \newcommand\*{\LWR@closethree}{}  
 5714 \newcommand\*{\LWR@closefour}{}  
 5715 \newcommand\*{\LWR@closefive}{}  
 5716 \newcommand\*{\LWR@closesix}{}  
 5717 \newcommand\*{\LWR@closeseven}{}  
 5718 \newcommand\*{\LWR@closeeight}{}  
 5719 \newcommand\*{\LWR@closenine}{}  
 5720 \newcommand\*{\LWR@closeten}{}  
 5721 \newcommand\*{\LWR@closeeleven}{}  
 5722 \newcommand\*{\LWR@closetwelve}{}  
 5723 \newcommand\*{\LWR@closethirteen}{}  
 5724 \newcommand\*{\LWR@closefourteen}{}  
 5725 \newcommand\*{\LWR@closefifteen}{}  
 5726 \newcommand\*{\LWR@closesixteen}{}  
 5727 \newcommand\*{\LWR@closeseventeen}{}  
 5728 \newcommand\*{\LWR@closeeighteen}{}  
 5729 \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}
```

---

---

```

5730 \newcommand*{\LWR@closedepthonen}{\LWR@depthnone}% top of the stack
5731 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
5732 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
5733 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
5734 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}
5735 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
5736 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
5737 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
5738 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
5739 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
5740 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5741 \newcommand*{\LWR@closedepthtwelve}{\LWR@depthnone}
5742 \newcommand*{\LWR@closedepththirteen}{\LWR@depthnone}
5743 \newcommand*{\LWR@closedepthfourteen}{\LWR@depthnone}
5744 \newcommand*{\LWR@closedepthfifteen}{\LWR@depthnone}
5745 \newcommand*{\LWR@closedepthsixteen}{\LWR@depthnone}
5746 \newcommand*{\LWR@closedepthseventeen}{\LWR@depthnone}
5747 \newcommand*{\LWR@closedeptheighteen}{\LWR@depthnone}
5748 \newcommand*{\LWR@closedeptnineteen}{\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.

```

5749 \NewDocumentCommand{\LWR@pushclose}{m}
5750 {%
5751 \global\let\LWR@closedenineteen\LWR@closeeighteen%
5752 \global\let\LWR@closeeighteen\LWR@closeseventeen%
5753 \global\let\LWR@closeseventeen\LWR@closesixteen%
5754 \global\let\LWR@closesixteen\LWR@closefifteen%
5755 \global\let\LWR@closefifteen\LWR@closefourteen%
5756 \global\let\LWR@closefourteen\LWR@closethirteen%
5757 \global\let\LWR@closethirteen\LWR@closetwelve%
5758 \global\let\LWR@closetwelve\LWR@closeeleven%
5759 \global\let\LWR@closeeleven\LWR@closeten%
5760 \global\let\LWR@closeten\LWR@closenine%
5761 \global\let\LWR@closenine\LWR@closeeight%
5762 \global\let\LWR@closeeight\LWR@closeseven%
5763 \global\let\LWR@closeseven\LWR@closesix%
5764 \global\let\LWR@closesix\LWR@closefive%
5765 \global\let\LWR@closefive\LWR@closefour%
5766 \global\let\LWR@closefour\LWR@closethree%
5767 \global\let\LWR@closethree\LWR@closetwo%
5768 \global\let\LWR@closetwo\LWR@closeone%
5769 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5770 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
5771 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
5772 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
5773 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
5774 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
5775 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
5776 \global\let\LWR@closedepththirteen\LWR@closedepthtwelve%

```

---

```

5777 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5778 \global\let\LWR@closedeptheleven\LWR@closedephten%
5779 \global\let\LWR@closedepthten\LWR@closedepthnine%
5780 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5781 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5782 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5783 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5784 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5785 \global\let\LWR@closedepthfour\LWR@closedepththree%
5786 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5787 \global\let\LWR@closedepthtwo\LWR@closedepthonne%
5788 \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.

```

5789 \ifdefstring{\LWR@closedeptnineteen}{\LWR@depthnone}%
5790     {}%
5791     {}%
5792         \PackageError{lwarp}%
5793             {The document is nested too deeply for Lwarp}%
5794             {PLEASE inform the Lwarp maintainer!}%
5795     {}%
5796 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

5797 \newcommand*{\LWR@popclose}%
5798 {%
5799 \global\let\LWR@closeone\LWR@closetwo%
5800 \global\let\LWR@closetwo\LWR@closethree%
5801 \global\let\LWR@closethree\LWR@closefour%
5802 \global\let\LWR@closefour\LWR@closefive%
5803 \global\let\LWR@closefive\LWR@closesix%
5804 \global\let\LWR@closesix\LWR@closeseven%
5805 \global\let\LWR@closeseven\LWR@closeeight%
5806 \global\let\LWR@closeeight\LWR@closenine%
5807 \global\let\LWR@closenine\LWR@closeten%
5808 \global\let\LWR@closeten\LWR@closeeleven%
5809 \global\let\LWR@closeeleven\LWR@closetwelve%
5810 \global\let\LWR@closetwelve\LWR@closethirteen%
5811 \global\let\LWR@closethirteen\LWR@closefourteen%
5812 \global\let\LWR@closefourteen\LWR@closefifteen%
5813 \global\let\LWR@closefifteen\LWR@closesixteen%
5814 \global\let\LWR@closesixteen\LWR@closeseventeen%
5815 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5816 \global\let\LWR@closeeighteen\LWR@closenineteen%
5817 \global\let\LWR@closedepthonne\LWR@closedepthtwo%
5818 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5819 \global\let\LWR@closedepththree\LWR@closedepthfour%
5820 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5821 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5822 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5823 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5824 \global\let\LWR@closedeptheight\LWR@closedepthnine%

```

---

```

5825 \global\let\LWR@closedepthnine\LWR@closedepthten%
5826 \global\let\LWR@closedepthten\LWR@closedeptheleven%
5827 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5828 \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
5829 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5830 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5831 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5832 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5833 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5834 \global\let\LWR@closedeptheighteen\LWR@closedeptnineteen%
5835 }

5836 \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:** 5837 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```

5838 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5839     \let\LWR@temp@par\par%
5840     \let\par\relax%
5841     \edef\LWR@thisexparrayname{\#1#2}%
5842     \ifstrempty{\#3}%
5843         {\csdef{\LWR@thisexparrayname}{}{}}%
5844         {\csedef{\LWR@thisexparrayname}{\#3}}%
5845     \let\par\LWR@temp@par%
5846 }

```

```
\LWR@getexparray {<name>} {<index>}
```

```

5847 \newcommand*{\LWR@getexparray}[2]{%
5848     \nameuse{\#1#2}%
5849 }

```

```
5850 \end{warpHTML}
```

## 43 Localizing catcodes

**for HTML & PRINT:** 5851 \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.

```
5852 \newcommand{\StartDefiningTabulars}{%
5853   \LWR@traceinfo{StartDefiningTabulars}%
5854   \warpHTMLonly{\catcode`\&=\active}%
5855 }
```

\StopDefiningTabulars Place after defining something with & in it.

```
5856 \newcommand{\StopDefiningTabulars}{%
5857   \LWR@traceinfo{StopDefiningTabulars}%
5858   \warpHTMLonly{\catcode`\&=4}%
5859 }
```

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.

```
5860 \newbool{LWR@mathmacro}
5861 \boolfalse{LWR@mathmacro}
```

\StartDefiningMath Place before defining something with \$ in it.

```
5862 \newcommand{\StartDefiningMath}{%
5863   \LWR@traceinfo{StartDefiningMath}%
5864   \warpHTMLonly{\catcode`\$=\active}%
5865 }
```

\StopDefiningMath Place after defining something with \$ in it.

```
5866 \newcommand{\StopDefiningMath}{%
5867   \LWR@traceinfo{StopDefiningMath}%
5868   \warpHTMLonly{\catcode`\$=3}% math shift
5869 }
```

```
5870 \end{warpall}
```

## 44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `\latexitimages` 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 `l warp`:

---

```
\xpatchcmd{\macro}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macro.}}
```

---

**for HTML & PRINT:** 5871 `\begin{warpall}`

**Bool LWR@dynamicmath** True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
**Default: false**

5872 `\newbool{LWR@dynamicmath}`  
 5873 `\boolfalse{LWR@dynamicmath}`

**\inlinemathother** Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

5874 `\newcommand{\inlinemathother}{%`  
 5875 `\LWR@traceinfo{\inlinemathother}}%`  
 5876 `\booltrue{LWR@dynamicmath}}%`  
 5877 `}`

**\inlinemathnormal** Place after using `$ ... $` or `\( ... \)` with dynamic contents.

5878 `\newcommand{\inlinemathnormal}{%`  
 5879 `\LWR@traceinfo{\inlinemathnormal}}%`  
 5880 `\boolfalse{LWR@dynamicmath}}%`  
 5881 `}`

5882 `\end{warpall}`

## 45 HTML entities

**for HTML output:** 5883 \begin{warpHTML}

    HTML Unicode entities:

5884 \let\LWR@origampersand\&

\HTMLentity {<entitytag>}

5885 \newcommand\*{\HTMLentity}[1]{%  
5886 % \LWR@traceinfo{HTMLentity \detokenize{\#1}}%  
5887 \begingroup%  
5888 \LWR@hook@processingtags%  
5889 \LWR@origampersand#1;%  
5890 \endgroup%  
5891 % \LWR@traceinfo{HTMLentity done}%  
5892 }

\HTMLunicode {<hex\_unicode>}

5893 \newcommand\*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}}

\&

5894 \renewrobustcmd\*{\&}{\HTMLentity{amp}}

\textless

5895 \let\LWR@origtextless\textless  
5896 \renewrobustcmd\*{\textless}{\HTMLentity{lt}}

\textgreater

5897 \let\LWR@origtextgreater\textgreater  
5898 \renewrobustcmd\*{\textgreater}{\HTMLentity{gt}}

5899 \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:** 5900 \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.

5901 \providecommand\*{\BaseJobname}{\jobname}

\HTMLFilename The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

5902 \providecommand\*{\HTMLFilename}{}{}

\HomeHTMLFilename The filename of the home page, defaulting to the \BaseJobname. See section 7.6.1.

5903 \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.

5904 \newcommand\*{\SetHTMLFileName}[1]{%  
5905 \setcounter{LWR@htmlfilename}{#1}%  
5906 }

Bool FileSectionNames Selects how to create HTML file names.

Defaults to use section names in the filenames.

5907 \newbool{FileSectionNames}  
5908 \booltrue{FileSectionNames}  
  
5909 \end{warpall}

**for HTML output:** 5910 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

5911 \newcounter{LWR@HTMLpagenum}  
5912 \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.

5913 \newcounter{LWR@htmlseqfilename}  
5914 \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.

```
5915 \newbool{LWR@setseqfilelabel}
5916 \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.

```
5917 \newcounter{LWR@htmlfilename}
5918 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {*htmlfilename or name*}

Prints the filename for a given section: \HTMLFilename{}filename/name.html

```
5919 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5920 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
5921 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5922 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
5923 % \LWR@traceinfo{about to assign temp}%
5924 \LWR@sanitize{#1}%
5925 \LWR@traceinfo{about to compare with ??}%
5926 \ifdefstring{\LWR@sanitized}{??}%
5927   {\LWR@traceinfo{found ??}}%
5928   {\LWR@traceinfo{not found ??}}%
5929 \LWR@traceinfo{about to compare with zero or empty}%
5930 \ifboolexpr{%
5931   test {\ifdefstring{\LWR@sanitized}{0}} or
5932   test {\ifdefstring{\LWR@sanitized}{}} or
5933   test {\ifdefstring{\LWR@sanitized}{??}}%
5934 }%
5935 {%
5936   \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5937   \HomeHTMLFilename.html%
5938 }%
```

For a LATEX section named “Index” or “index” without a prefix, create a filename with a trailing -0 to avoid colliding with the HTML filename index.html:

```
5939 {%
5940   \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
5941   \ifboolexpr{%
5942     test{\ifdefvoid{\HTMLFilename}} and
```

```

5943      (
5944          test{\ifdefstring{\LWR@sanitized}{Index}} or
5945          test{\ifdefstring{\LWR@sanitized}{index}}
5946      )
5947  }%
5948 {%
5949     \LWR@traceinfo{Adding a zero to the index filename.}%
5950     \LWR@sanitized-0.html%
5951 }%

```

Otherwise, create a filename with the chosen prefix:

```

5952  {%
5953      \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
5954  }%
5955 }%
5956 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5957 \endgroup%
5958 }

```

\LWR@htmlrefsectionfilename {*<label>*}

Prints the filename for the given label

```

5959 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5960     \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

\LWR@nullfonts to allow math in a section name.

```

5961 \begingroup%
5962 \LWR@nullfonts%
5963 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
5964 \endgroup%
5965 \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5966 }

```

5967 \end{warpHTML}

## 47 Homepage link

**for HTML & PRINT:** 5968 \begin{warpall}

\linkhomename Holds the default name for the home link.

```

5969 \newcommand{\linkhomename}{Home}
5970 \end{warpall}

```

**for HTML output:** 5971 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
5972 \newcommand*\{\LinkHome\}{%
5973     \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{\linkhome}%
5974 }

5975 \end{warpHTML}
```

**for PRINT output:** 5976 \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.

```
5977 \AtBeginDocument{%
5978 \ifundefined{hyperref}{%
5979     \newcommand*\{\LinkHome\}{%
5980         \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5981     }%
5982 }{%
5983     \newcommand*\{\LinkHome\}{%
5984         \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5985     }%
5986 }%
5987 }%
5988
5989 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}}

5990 \end{warpprint}
```

**for HTML output:** 5991 \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.

```
5992 \newcommand*\{\LWR@topnavigation\}{%
5993     \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}%
5994 }
```

\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.

```
5995 \newcommand*\{\LWR@botnavigation\}{%
5996     \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}%
5997 }
```

```
5998 \end{warpHTML}
```

## 48 Previous/next navigation links

**for HTML & PRINT:** 5999 \begin{warpall}

\linkpreviousname What to call the link to the previous web page.

6000 \newcommand\*\{\linkpreviousname\}{Previous}

\linknextname What to call the link to the next web page.

6001 \newcommand\*\{\linknextname\}{Next}

6002 \end{warpall}

**for PRINT output:** 6003 \begin{warpprint}

\LinkPrevious Creates a link to the previous web page if there is one.

6004 \newcommand\*\{\LinkPrevious\}{}%

\LinkNext Creates a link to the next web page if there is one.

6005 \newcommand\*\{\LinkNext\}{}%

6006 \end{warpprint}

**for HTML output:** 6007 \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-\*

```
6008 \newcommand*\{\LinkPrevious\}{%
6009   \ifnumless{\value{LWR@htmlseqfilenumber}}{1}{}{%
6010     \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
6011     \LWR@subhyperrefclass{%
6012       \LWR@htmlrefsectionfilename{%
6013         \BaseJobname-autofile-\arabic{LWR@tempcountone}}%
6014       }%
6015     }{\linkpreviousname\{\linkhome\}}%
6016   }%
6017 }
```

\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

```

6018 \newcommand*{\LinkNext}{%
6019   \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
6020     \edef\LWR@tempone{%
6021       \LWR@htmlfileref{\BaseJobname-autofile-\arabic{\LWR@htmlseqfilenumber}}%
6022     }%
6023     \edef\LWR@temptwo{%
6024       \LWR@htmlfileref{\BaseJobname-autofile-last}%
6025     }%
6026     \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
6027       \setcounter{\LWR@tempcountone}{\value{\LWR@htmlseqfilenumber}+1}%
6028       \LWR@subhyperrefclass{%
6029         \LWR@htmlrefsectionfilename{%
6030           \BaseJobname-autofile-\arabic{\LWR@tempcountone}}%
6031         }%
6032       }{\linknextname}{linkhome}%
6033     }%
6034   }%
6035 }

6036 \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:** 6037 \begin{warpHTML}

\LWRPrintStack Prints the closeddepth stack.

```

6038 \newcommand*{\LWR@subprintstack}{%
6039 \LWR@closedepthonetwo\ \LWR@closedepthtwo\ \LWR@closedepththree\%
6040 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\%
6041 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\%
6042 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\%
6043 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\%
6044 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\%
6045 \LWR@closedeptnineteen\%
6046 }
6047
6048 \newcommand*{\LWRPrintStack}{%
6049 \LWR@startpars
6050 \LWR@subprintstack
6051 }

6052 \end{warpHTML}

```

**for PRINT output:** 6053 \begin{warpprint}

```
6054 \newcommand*{\LWRPrintStack}{}%
```

---

```
6055 \end{warpprint}
```

## 50 Closing stack levels

**for HTML output:** 6056 \begin{warpHTML}

Close one nested level:

```
6057 \newcommand*{\LWR@closeoneprevious}{%
6058 %
6059 \LWR@closeone
6060 %
6061 \LWR@popclose
6062 }
```

\LWR@closeprevious {*<sectintype>*} Close everything up to the given depth:

```
6063 \newcommand*{\LWR@closeprevious}[1]{%
6064 \LWR@traceinfo{%
6065     LWR@closeprevious to depth \csuse{LWR@depth#1}, %
6066     depths are \LWR@subprintstack%
6067 }%
```

Close any pending paragraph:

```
6068 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
6069 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}>}{\csuse{LWR@depth#1}}}}%
6070 {%
6071     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6072     \LWR@closeoneprevious%
6073 }%
6074 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}}{\csuse{LWR@depth#1}}}}%
6075 {%
6076     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6077     \LWR@closeoneprevious%
6078 }{%
6079 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
6080 }
```

```
6081 \end{warpHTML}
```

## 51 PDF pages and styles

**for HTML output:** 6082 \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.

```
6083 \newcommand{\LWR@forcenewpage}{%
6084 \LWR@traceinfo{\LWR@forcenewpage}%
6085 \ifinner\else%
6086   \LWR@traceinfo{\LWR@forcenewpage A}%
6087   \LWR@stoppars%
6088   \LWR@traceinfo{\LWR@forcenewpage B}%
6089   \LWR@maybe@orignewpage%
6090   \LWR@traceinfo{\LWR@forcenewpage C}%
6091   \LWR@startpars%
6092 \fi%
6093 \LWR@traceinfo{\LWR@forcenewpage done}%
6094 }
```

`\pagestyle`, etc. are nullified for HTML output.

`\pagestyle {<style>}`

```
6095 \renewcommand*{\pagestyle}[1]{}
```

`\thispagestyle {<style>}`

```
6096 \renewcommand*{\thispagestyle}[1]{}
```

`\markboth {<left>} {<right>}`

```
6097 \renewcommand*{\markboth}[2]{}
```

`\markright {<right>}`

```
6098 \renewcommand*{\markright}[1]{}
```

`\raggedbottom`

```
6099 \renewcommand*{\raggedbottom}{}{}
```

`\flushbottom`

```
6100 \renewcommand*{\flushbottom}{}{}
```

`\sloppy`

```
6101 \renewcommand*{\sloppy}{}{}
```

```
\fussy

6102 \renewcommand*\fussy{}{}

\pagenumbering * {\i(commands) i}

6103 \RenewDocumentCommand{\pagenumbering}{s m}{}

6104 \end{warpHTML}
```

## 52 HTML tags, spans, divs, elements

**for HTML output:** 6105 \begin{warpHTML}

### 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```
6106 \newcommand*\LWR@tagtitle{h1}
6107 \newcommand*\LWR@tagtitleend{/h1}
6108 \newcommand*\LWR@tagbook{div class=\textquotedbl{}book\textquotedbl{}}
6109 \newcommand*\LWR@tagbookend{/div}
6110 \newcommand*\LWR@tagpart{h2}
6111 \newcommand*\LWR@tagpartend{/h2}
6112 \newcommand*\LWR@tagchapter{h3}
6113 \newcommand*\LWR@tagchapterend{/h3}
6114 \newcommand*\LWR@tagsection{h4}
6115 \newcommand*\LWR@tagsectionend{/h4}
6116 \newcommand*\LWR@tagsubsection{h5}
6117 \newcommand*\LWR@tagsubsectionend{/h5}
6118 \newcommand*\LWR@tagsubsubsection{h6}
6119 \newcommand*\LWR@tagsubsubsectionend{/h6}
6120 \newcommand*\LWR@tagparagraph{span class=\textquotedbl{}paragraph\textquotedbl{}}
6121 \newcommand*\LWR@tagparagraphend{/span}
6122 \newcommand*\LWR@tagsubparagraph{span class=\textquotedbl{}subparagraph\textquotedbl{}}
6123 \newcommand*\LWR@tagsubparagraphend{/span}
6124
6125 \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.

```
6126 \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.)

```

6127 \providecommand*\LWR@FBcancel(){}
6128
6129 \AtBeginDocument{%
6130   \@ifundefined{NoAutoSpacing}{%
6131     {}%
6132     {%
6133       \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
6134       \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6135     }%
6136   }%
6137   \@ifundefined{frenchbsetup}{%
6138   {}%
6139   {}%
6140     \frenchbsetup{FrenchFootnotes=false}%
6141   }%
6142   \renewrobustcmd*\{\FBcolonspace}{%
6143     \begingroup%
6144       \LWR@hook@processingtags%
6145       \LWR@origampersand{}nbsp;%
6146     \endgroup%
6147   }%
6148   \renewrobustcmd*\{\FBthinspace}{%
6149     \begingroup%
6150       \LWR@hook@processingtags%
6151       \LWR@origampersand\LWR@origpound{}x202f;% ,
6152     \endgroup%
6153   }%
6154   \renewrobustcmd*\{\FBguillspace}{%
6155     \begingroup%
6156       \LWR@hook@processingtags%
6157       \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}%
6158     \endgroup%
6159   }%
6160   \DeclareDocumentCommand{\FBmedkern}{}
6161     \begingroup%
6162       \LWR@hook@processingtags%
6163       \LWR@origampersand\LWR@origpound{}x202f;% ,
6164     \endgroup%
6165   }%
6166   \DeclareDocumentCommand{\FBthickkern}{}
6167     \begingroup%
6168       \LWR@hook@processingtags%
6169       \LWR@origampersand{}nbsp;% ~

```

```

6170      \endgroup%
6171  }%
6172  \renewrobustcmd*{\~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6173  \ifFBunicode%
6174  \else%
6175      \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6176      \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6177  \fi%
6178 }%
6179 }

```

## 52.4 HTML output formatting

Helps format the output HTML code for human readability.

\LWR@indentHTML Newline and indent the output HTML code.

```

6180 \newcommand*{\LWR@indentHTML}{%
6181     \LWR@orignewline\LWR@origrule{2em}{0pt}%
6182 }

```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```

6183 \newcommand*{\LWR@indentHTMLtwo}{%
6184     \LWR@orignewline\LWR@origrule{4em}{0pt}%
6185 }

```

## 52.5 HTML tags

\LWR@htmltagc {*tag*} Break ligatures and use upright apostrophes in HTML tags.

\protect is in case the tag appears in TOC, LOF, LOT.

```

6186 \newcommand*{\LWR@htmltagc}[1]{%
6187 \LWR@traceinfo{\LWR@htmltagc !\detokenize{\#1}!}%
6188 \begingroup%
6189 \LWR@hook@processingtags%
6190 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6191 \protect\LWR@origtextless%
6192 \LWR@isolate{\#1}%
6193 \protect\LWR@origtextgreater%
6194 \endgroup%
6195 }

```

\LWR@spanwarnformat {*object*}

Warns if the given object is used inside a span.

```

6196 \newcommand*{\LWR@spanwarnformat}[1]{%

```

```

6197  \ifnumcomp{\value{LWR@spandepth}}{0}{%
6198      \PackageWarning{lwarp}{%
6199          A #1 is being used inside a span.\MessageBreak
6200          Formatting may be lost,%
6201      }%
6202  }{%
6203 }

```

\LWR@spanwarninvalid {*object*}

Warns if the given object is used inside a span.

```

6204 \newcommand*{\LWR@spanwarninvalid}[1]{%
6205     \ifnumcomp{\value{LWR@spandepth}}{0}{%
6206         \PackageWarning{lwarp}{%
6207             A #1 is being used inside a span.\MessageBreak
6208             This generates invalid HTML,%
6209         }%
6210     }{%
6211 }

```

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.

```

6212 \newcommand*{\LWR@nestspanitem}{%
6213 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
6214 \LWR@origitem%
6215 }
6216
6217 \newenvironment*{LWR@nestspan}
6218 {%
6219 \LWR@traceinfo{LWR@nestspan starting}%
6220 \ifnumcomp{\value{LWR@lateimagedepth}}{0}{%
6221 {%
6222     \LWR@traceinfo{LWR@nestspan: inside a lateimage}%
6223 }%
6224 {%
6225     \LWR@traceinfo{LWR@nestspan: NOT inside a lateimage}%
6226     \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

6227 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
6228     {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6229     {}%
6230 \RenewDocumentEnvironment{BlockClass}{o m}%
6231     {\LWR@spanwarnformat{multi-paragraph object}}%
6232     {}%
6233 \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}%
6234     {\LWR@spanwarnformat{multi-paragraph object}}%

```

```

6235      {}%
6236      \renewcommand{\BlockClassSingle}[2]{%
6237          {\LWR@spanwarnformat{multi-paragraph object}}%
6238          ##2%
6239      }%
6240      \renewcommand{\LWR@forcenewpage}{}%
6241      \renewcommand{\LWR@liststart}{%
6242          \let\item\LWR@nestspanitem%
6243      }%
6244      \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6245      \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6246      \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6247 }% not in a lateximage
6248 \LWR@traceinfo{\LWR@nestspan starting: done}%
6249 }% starting env
6250 { % ending env
6251 \LWR@traceinfo{\LWR@nestspan ending}%
6252 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
6253 {}%
6254 {\addtocounter{\LWR@spandepth}{-1}}%
6255 \LWR@traceinfo{\LWR@nestspan ending: done}%
6256 }
6257
6258 \AfterEndEnvironment{\LWR@nestspan}{\global\let\par\LWR@closeparagraph}

```

\LWR@htmlspan {*tag*} {*text*}

⚠ \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.

```

6259 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6260 \LWR@ensuredoingapar%
6261 \LWR@htmltagc{#1}%
6262 \begin{\LWR@nestspan}%
6263 #2%
6264 \LWR@htmltagc{/#1}%
6265 \end{\LWR@nestspan}%
6266 }

```

\LWR@htmlspanclass [*style*] (*aria role*) {*class*} {*text*}

```

6267 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{%
6268     \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|#3|}%
6269     \LWR@ensuredoingapar%
6270     \ifblank{#2}%
6271         {\LWR@subhtmlelementclass{span}[#1]{#3}}%
6272         {\LWR@subhtmlelementclass{span}[#1](#2){#3}}%
6273     \begin{\LWR@nestspan}%
6274     #4%
6275     \LWR@htmltagc{/span}%
6276     \LWR@traceinfo{\LWR@htmlspanclass done}%
6277     \end{\LWR@nestspan}%
6278 }

```

```
\LWR@htmltag {<tag>}

Print an HTML tag: <tag>

6279 \newcommand*{\LWR@htmltag}[1]{%
6280 % \LWR@traceinfo{\LWR@htmltagb !\detokenize{#1}!}%
6281 \LWR@htmltagc{#1}%
6282 % \LWR@traceinfo{\LWR@htmltagb: done}%
6283 }
```

## 52.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

```
\LWR@htmlopencomment
\LWR@htmlclosecomment

6284 \newcommand*{\LWR@htmlopencomment}{%
6285 {%
6286 % \LWR@traceinfo{\LWR@htmlopencomment}%
6287 \begingroup%
6288 \LWR@hook@processingtags%
6289 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6290 \LWR@print@mbox{\LWR@origtextless{}!-/-%}
6291 \endgroup%
6292 }%
6293 }
6294
6295 \newcommand*{\LWR@htmlclosecomment}{%
6296 {%
6297 % \LWR@traceinfo{\LWR@htmlclosecomment}%
6298 \begingroup%
6299 \LWR@hook@processingtags%
6300 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6301 \LWR@print@mbox{-/-\LWR@origtextgreater}%
6302 \endgroup%
6303 }%
6304 }
```

```
\LWR@htmlcomment {<comment>}

6305 \newcommand{\LWR@htmlcomment}[1]{%
6306 \ifmmode%
6307 \else%
6308   \LWR@htmlopencomment{}%
6309   {%
6310     \LWR@print@normalfont%
6311     \LWR@origttfamily% break ligatures
6312     #1%
6313   }%
6314   \LWR@htmlclosecomment{}%
6315 \fi%
6316 }
```

```
\LWR@htmlblockcomment {<comment>}

6317 \newcommand{\LWR@htmlblockcomment}[1]
6318 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}
```

\LWR@htmlblocktag {<tag>} print a stand-alone HTML tag

```
6319 \newcommand*{\LWR@htmlblocktag}[1]{%
6320 \LWR@stoppars%
6321 \LWR@htmntag{#1}%
6322 \LWR@startpars%
6323 }
```

## 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.

```
6324 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} D(){} m}{%
6325 \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!#4!}%
6326 \ifblank{#2}%
6327 {%
6328   \empty style
6329   \LWR@htmntag{%
6330     #1%
6331     \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6332     \ifblank{#4}{}{ class=\textquotedbl#4\textquotedbl}%
6333   }%
6334 {%
6335   \nonempty style
6336   \LWR@htmntag{%
6337     #1\LWR@indentHTML%
6338     \ifblank{#3}{}{role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6339     \ifblank{#4}{}{class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6340     style=\textquotedbl#2\textquotedbl\LWR@newline%
6341   }%
6342 \LWR@traceinfo{\LWR@subhtmlelementclass done}%
6343 }
```

```
\LWR@htmlelementclass {<element>} [<style>] {<class>}
```

```
6344 \NewDocumentCommand{\LWR@htmlelementclass}{m o D(){} m}{%
6345   \LWR@stoppars%
6346   \LWR@forceemptyline%
6347   \ifblank{#3}%
6348     {\LWR@subhtmlelementclass{#1}[#2][#4]}%
6349     {\LWR@subhtmlelementclass{#1}[#2](#3)[#4]}%
```

```

6350      \LWR@startpars%
6351 }

\LWR@htmlelementclassend  {\langle element \rangle} {\langle class \rangle}

6352 \newcommand*{\LWR@htmlelementclassend}[2]{%
6353     \LWR@stoppars%
6354     \LWR@htmltag{/#1}%
6355     \ifbool{HTMLDebugComments}{%
6356         \LWR@htmlcomment{End of #1 '#2'}%
6357     }{}%
6358     \LWR@startpars%
6359 }

\LWR@htmldivclass  [\langle style \rangle] (\langle aria role \rangle) {\langle class \rangle}

6360 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6361     \ifblank{#2}%
6362         {\LWR@htmlelementclass{div}[#1]{#3}}%
6363         {\LWR@htmlelementclass{div}[#1](#2){#3}}%
6364 }

\LWR@htmldivclassend  {\langle class \rangle}

6365 \newcommand*{\LWR@htmldivclassend}[1]{%
6366     \LWR@htmlelementclassend{div}{#1}%
6367 }

```

## 52.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```

\LWR@htmlelementclassline  {\langle element \rangle} [\langle style \rangle] {\langle class \rangle} {\langle text \rangle}

6368 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
6369 \LWR@stoppars
6370 \LWR@forceemptyline%
6371 \LWR@subhtmlelementclass{#1}[#2]{#3}%
6372 #4%
6373 \LWR@htmltag{/#1}
6374 \LWR@startpars
6375 }

```

## 52.9 HTML5 semantic elements

```

\LWR@htmlelement  {\langle element \rangle}

6376 \newcommand*{\LWR@htmlelement}[1]{%
6377 \LWR@htmlblocktag{#1}%
6378 }

```

---

```
\LWR@htmlelementend {\langle element \rangle}

6379 \newcommand*{\LWR@htmlelementend}[1]{%
6380 \LWR@stoppars
6381 \LWR@htmlltag{/#1}
6382 \LWR@startpars
6383 }
6384
6385 \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>**) {\b<class>}    High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

**for PRINT output:** 6386 \begin{warpprint}
6387 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{{}
6388 \end{warpprint}

**for HTML output:** 6389 \begin{warpHTML}
6390
6391 \NewDocumentEnvironment{\LWR@print@BlockClass}{o D(){} m}{}{{}
6392
6393 \NewDocumentEnvironment{\LWR@HTML@BlockClass}{o D(){} m}{}{{}
6394 {\LWR@htmldivclass[#1](#2){#3}}%
6395 {\LWR@htmldivclassend[#3]}%
6396
6397 \LWR@formattedenv{BlockClass}
6398 \end{warpHTML}

\BlockClassSingle {\b<class>} {\b<text>}    A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6399 \begin{warpall}
6400 \newcommand{\BlockClassSingle}[2]{#2}
6401 \end{warpall}

**for HTML output:** 6402 \begin{warpHTML}
6403 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
6404 \LWR@htmlelementclassline{div}{#1}{#2}%
6405 }
6406
6407 \LWR@formatted{BlockClassSingle}
6408 \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:**

```
6409 \begin{warpprint}
6410 \NewDocumentCommand{\InlineClass}{D{(){} }{} o m +m}{#4}%
6411 \end{warpprint}
```

**for HTML output:**

```
6412 \begin{warpHTML}
6413 \NewDocumentCommand{\LWR@print@InlineClass}{D{(){} }{} o m +m}{#4}%
6414
6415 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{(){} }{} o m +m}{%
6416 \LWR@traceinfo{\LWR@HTML@InlineClass #3}%
6417 \ifbool{FormatWP}{%
6418   \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}%
6419   \LWR@htmlspanclass[#1]{#3}{#4}%
6420 }{%
6421   \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}%
6422   \LWR@htmlspanclass[#2]{#3}{#4}%
6423 }%
6424 \LWR@traceinfo{\LWR@HTML@InlineClass: done}%
6425 }
6426
6427 \LWR@formatted{InlineClass}
6428 \end{warpHTML}
```

Env LWR@BlockClassWP {<WP style>} {<HTML style>} (<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:**

```
6429 \begin{warpprint}
6430 \NewDocumentEnvironment{\LWR@BlockClassWP}{m m D(){} m}{}{%
6431 \end{warpprint}}
```

**for HTML output:**

```
6432 \begin{warpHTML}
6433 \NewDocumentEnvironment{\LWR@print@LWR@BlockClassWP}{m m D(){} m}{}{%
6434
6435 \NewDocumentEnvironment{\LWR@HTML@LWR@BlockClassWP}{m m D(){} m}{}{%
6436 {%
6437 \LWR@stopars%
6438 \ifbool{FormatWP}{%
6439 {%
6440   \addtocounter{\LWR@thisautoidWP}{1}%
6441
6442   \LWR@htmltag{%
6443     div class=\textquotedbl#4\textquotedbl\ % space
6444     id=\textquotedbl%
6445       \LWR@print@mbox{\autoidWP-\arabic{\LWR@thisautoidWP}}%
6446   \textquotedbl%
```

```

6446      \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6447      \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6448  }%
6449 }% FormatWP
6450 {%
6451   \LWR@htmltag{%
6452     div class=\textquotedbl#4\textquotedbl%
6453     \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6454     \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6455   }%
6456 }% not FormatWP
6457 \LWR@startpars%
6458 }
6459 {\LWR@htmldivclassend{#4}}
6460
6461 \LWR@formattedenv{\LWR@BlockClassWP}
6462 \end{warpHTML}

```

## 52.11 Closing HTML tags

**for HTML output:** 6463 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6464 \newcommand*{\LWR@printclosebook}%
6465   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6466 \newcommand*{\LWR@printclosepart}%
6467   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6468 \newcommand*{\LWR@printclosechapter}%
6469   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6470 \newcommand*{\LWR@printclosesection}%
6471   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6472 \newcommand*{\LWR@printclosesubsection}%
6473   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6474 \newcommand*{\LWR@printclosesubsubsection}%
6475   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6476 \newcommand*{\LWR@printcloseparagraph}%
6477   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6478 \newcommand*{\LWR@printclosesubparagraph}%
6479   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6480 \newcommand*{\LWR@printcloselistitem}%
6481   {\LWR@htmltag{/li}}
6482 \newcommand*{\LWR@printclosedescitem}%
6483   {\LWR@htmltag{/dd}}
6484 \newcommand*{\LWR@printcloseitemize}%
6485   {\LWR@htmltag{/ul}}
6486 \newcommand*{\LWR@printcloseenumerate}%
6487   {\LWR@htmltag{/ol}}
6488 \newcommand*{\LWR@printclosedescription}%
6489   {\LWR@htmltag{/dl}}

```

---

6490 \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 LATEX 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:** 6491 \begin{warpHTML}

Ctr \LWR@spandepth Do not create paragraph tags inside of an HTML span.

6492 \newcounter{\LWR@spandepth}  
6493 \setcounter{\LWR@spandepth}{0}

Bool \LWR@doingstartpars Tells whether paragraphs may be generated.

6494 \newbool{\LWR@doingstartpars}  
6495 \boolfalse{\LWR@doingstartpars}

Bool \LWR@doingapar Tells whether have actually generated and are currently processing paragraph text.

6496 \newbool{\LWR@doingapar}  
6497 \global\boolfalse{\LWR@doingapar}

\LWR@ensuredoingapar If are about to print something visible, and if allowed to start a new paragraph, ensure that are \LWR@doingapar, so that paragraph tags are placed:

6498 \newcommand\*{\LWR@ensuredoingapar}{%  
6499 \ifbool{\LWR@doingstartpars}{%  
6500 {\global\booltrue{\LWR@doingapar}}%  
6501 {}%  
6502 }

\PN@parnotes@auto Redefined by parnotes to print paragraph notes at the end of each paragraph.

6503 \def\PN@parnotes@auto{}%

\LWR@openparagraph

6504 \newcommand\*{\LWR@openparagraph}{%  
6505 {}%

See if paragraph handling is enabled:

```
6506 \ifbool{LWR@doingstartpars}%
6507 {%
  handling pars
```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```
6508   \ifboolexpr{
6509     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6510     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6511   }% 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>`.

```
6512   {}% no nested par tags
```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```
6513   {}% yes nest par tags
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6514   \PN@parnotes@auto%
```

The opening paragraph tag:

```
6515   \LWR@htmllagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Now have started a paragraph.

```
6516   \global\booltrue{LWR@doingapar}%
```

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.)

```
6517   \let\par\LWR@closeparagraph%
6518   }% end of yes nest par tags
6519 }% end of handling pars
6520 {}% not handling pars
6521 }
```

`\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`.

```
6522 \newcommand*{\LWR@closeparagraph@br}{%
6523 {%
6524   \ifboolexpr{
6525     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6526     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
```

```

6527      not bool {LWR@intabularmetadata}
6528  }%
6529      {\unskip\LWR@htmltagc{br /}}%
6530      {}%
6531 }

```

\LWR@closeparagraph

```

6532 \newcommand*{\LWR@closeparagraph}{%
6533 {%
6534 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```
6535 \ifbool{\LWR@doingapar}{%
```

If currently in paragraph mode:

```
6536 {%
  handling pars
}
```

See if already started a `lateximage` or a `<span>`:

```

6537 \ifboolexpr{%
6538     test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6539     test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
6540 }

```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```

6541 {%
  no nested par tags
  \LWR@closeparagraph@br%
}

```

If have not already started a `lateximage` or a `<span>`:

```
6544 {%
  yes nest par tags
}
```

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.)

```

6545     @hspacer{\fill}%
6546     \leavevmode\LWR@orignewline%
6547     \LWR@htmltagc{/LWR@tagregularparagraph}%

```

No longer doing a paragraph:

```
6548 \global\boolfalse{\LWR@doingapar}
```

Disable the special `minipage` & `\hspace` interaction until a new `minipage` is found:

```
6549 \global\boolfalse{\LWR@minipagethispar}
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
6550      \PN@parnotes@auto%
6551  }% end of yes nest par tags
6552 }% end of handling pars
```

Add a `parbreak` if in a span, not in a `lateximage`, and not in table metadata.

```
6553 { % not handling pars
6554   \LWR@closeparagraph@br%
6555 }% not handling pars
```

In most cases, finish with a `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
6556 \ifboolexpr{%
6557   not bool {\LWR@doingapar} and
6558   test {\ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}} and
6559   test {
6560     \ifnumcomp{\value{\LWR@tabulardepth}}{=}{\value{\LWR@tabularpardepth}}
6561   } and
6562   bool {\LWR@intabularmetadata} and
6563   not bool {\LWR@tableparcell} and
6564   test {\ifnumcomp{\value{\LWR@lateximagedepth}}{=}{0}}
6565 }%
6566 { %
6567   \LWR@getmynexttoken%
6568 }{%
6569   \LWR@origpar%
6570 }%
6571 }

6572 \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:** 6573 `\begin{warpHTML}`

`\LWR@startpars` Begin handling `HTML` paragraphs. This allows an `HTML` paragraph to start, but one has not yet begun.

```
6574 \newcommand*{\LWR@startpars}%
6575 {%
6576 % \LWR@traceinfo{\LWR@startpars}%
```

Ignore if inside a `\textrimage` or `<span>`:

```
6577 \ifboolexpr{  
6578   test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or  
6579   test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}  
6580 }%  
6581 {}%  
6582 {}%
```

See if currently handling `HTML` paragraphs:

```
6583 \ifbool{LWR@doingstartpars}{%
```

If already in paragraph mode, do nothing.

```
6584 {}%
```

If not currently in paragraph mode:

```
6585 {}%
```

At the start of each paragraph, generate an opening tag:

```
6586 \PushPreHook{par}{\LWR@openparagraph}{%
```

At the end of each paragraph, generate closing tag then do regular `/par` actions:

```
6587 \let\par\LWR@closeparagraph  
6588 }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6590 \global\setbool{LWR@doingstartpars}{true}{%
```

No `<par>` tag yet to undo:

```
6591 \global\boolfalse{LWR@doingapar}{%  
6592 }% nestspan  
6593 % \LWR@traceinfo{LWR@startpars: done}{%  
6594 }
```

`\LWR@stopars` Stop handling `HTML` paragraphs. Any currently open `HTML` paragraph is closed, and no more will be opened.

```
6595 \newcommand*{\LWR@stopars}{%  
6596 {}%
```

Ignore if inside a `\textrimage` or `<span>`:

```
6597 \ifboolexpr{  
6598   test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
```

---

```

6599      test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6600 }%
6601 {}%
6602 {%

```

See if currently handling HTML paragraphs:

```
6603 \ifbool{LWR@doingapar}{%
```

if currently in an HTML paragraph:

```
6604 {%
```

Print a closing tag:

```

6605 \leavevmode\LWR@orignewline%
6606 \LWR@htmltagc{/LWR@tagregularparagraph}%
6607 \LWR@orignewline%

```

No longer have an open HTML paragraph:

```
6608 \global\boolfalse{LWR@doingapar}{%
```

Disable the special `\minipage` & `\hspace` interaction until a new minipage is found:

```

6609 \global\boolfalse{LWR@minipagethispar}{}
6610 }%

```

If was not in an HTML paragraph:

```
6611 {}%
```

See if currently allowing HTML paragraphs:

```
6612 \ifbool{LWR@doingstartpars}{%
```

If so: clear the par hook to no longer catch paragraphs:

```
6613 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6614 {}%
```

No longer in paragraph mode:

```
6615 \global\setbool{LWR@doingstartpars}{false}{%
```

No `<p>` tag to undo:

```

6616 \global\boolfalse{LWR@doingapar}{}
6617 }% nestspan
6618 }%

```

```
6619 \end{warpHTML}
```

## 55 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed  
\AtBeginDocument here.

for HTML output: 6620 \begin{warpHTML}

```
6621 \AtBeginDocument{  
6622     \def\@afterindentfalse{\let\if@afterindent\iffalse}  
6623     \@afterindentfalse  
6624 }  
6625 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting  
  
6626 \end{warpHTML}
```

## 56 Page headers and footers

for HTML & PRINT: 6627 \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.

```
6628 \newcommand{\LWR@firstpagetop}{} % for the home page alone  
6629 \newcommand{\LWR@firstpagebottom}{} % for the home page alone  
6630 \newcommand{\LWR@pagetop}{} % for all other pages  
6631 \newcommand{\LWR@pagebottom}{}  
  
\HTMLFirstPageTop {<text and logos>}
```

```
6632 \newcommand{\HTMLFirstPageTop}[1]{%  
6633     \renewcommand{\LWR@firstpagetop}{#1}%  
6634 }
```

\HTMLFirstPageBottom {<text and logos>}

```
6635 \newcommand{\HTMLFirstPageBottom}[1]{%  
6636     \renewcommand{\LWR@firstpagebottom}{#1}%  
6637 }
```

\HTMLPageTop {<text and logos>}

```
6638 \newcommand{\HTMLPageTop}[1]{%  
6639     \renewcommand{\LWR@pagetop}{#1}%  
6640 }
```

```
\HTMLPageBottom {<text and logos>}

6641 \newcommand{\HTMLPageBottom}[1]{%
6642     \renewcommand{\LWR@pagebottom}{#1}%
6643 }

6644 \end{warpall}
```

## 57 CSS

**for HTML output:** 6645 \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.

```
6646 \newcommand*{\LWR@currentcss}{lwarp.css}
```

\CSSFilename {<new-css-filename.css>} Assigns the css file to be used by the following HTML pages.

```
6647 \newcommand*{\CSSFilename}[1]{%
6648 \renewcommand*{\LWR@currentcss}{#1}%
6649 \@onelvel@sanitize\LWR@currentcss%
6650 }
6651
6652 \end{warpHTML}
```

**for PRINT output:** 6653 \begin{warpprint}
6654 \newcommand\*{\CSSFilename}[1]{}
6655 \end{warpprint}

## 58 MATHJAX script

**for HTML output:** 6656 \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.

```
6657 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

\MathJaxFilename {<filename>} Assigns the MATHJAX script file to be used by the following HTML pages.

```

6658 \newcommand*{\MathJaxFilename}[1]{%
6659     \renewcommand*{\LWR@mathjaxfilename}{#1}%
6660     @onelevel@sanitize\LWR@mathjaxfilename%
6661 }
6662
6663 \end{warpHTML}

for PRINT output: 6664 \begin{warpprint}
6665 \newcommand*{\MathJaxFilename}[1]{}
6666 \end{warpprint}

```

## 59 Title, HTML meta author, HTML meta description

**for HTML output:** 6667 \begin{warpHTML}

\title {\langle title\rangle} Modified to remember \thetitle, which is used to set the HTML page titles.

```

6668 \let\LWR@origtitle\title
6669
6670 \renewcommand*{\title}[1]{%
6671     \LWR@origtitle{#1}%
6672     \begingroup%
6673         \renewcommand{\thanks}[1]{}%
6674         \protected@xdef\thetitle{#1}%
6675     \endgroup%
6676 }
6677 \end{warpHTML}

```

**for HTML & PRINT:** 6678 \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.

```

6679 \providecommand{\thetitle}{\BaseJobname}
6680
6681 \newcommand{\theHTMLTitle}{\thetitle}
6682
6683 \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.

```

6684 \providecommand{\theauthor}{}
6685
6686 \newcommand{\theHTMLAuthor}{\theauthor}
6687
6688 \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.

```
6689 \newcommand{\LWR@currentHTMLDescription}{}  
6690  
6691 \newcommand{\HTMLDescription}[1]{%  
6692 \renewcommand{\LWR@currentHTMLDescription}{#1}  
6693 }  
6694  
6695 \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:** 6696 `\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.

---

```
6697 \newcounter{FootnoteDepth}
6698 \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.)

```
6699 \newcounter{footnoteReset}
6700 \setcounter{footnoteReset}{0}

6701 \end{warpall}
```

**for HTML output:** 6702 `\begin{warpHTML}`

`\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 `lateximage`, which is on its own new page.

```
6703 \newbox\LWR@footnotebox
```

Much of the following has unneeded print-mode formatting removed.

```
\@makefntext {⟨text⟩}

6704 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}#1}

\@makefnmark

6705 \def\@makefnmark{%
6706   \textsuperscript{\@thefnmark}%
6707 }
```

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\@footnotetext
```

```
\LWR@@footnotetext {⟨text⟩} {⟨footnote box name⟩}
```

---

Factored to allow multiple footnote boxes for `manyfoot`.

```
6708 \long\def\LWR@@footnotetext#1#2{%
6709 \LWR@traceinfo{\LWR@footnotetext}%
}
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
6710 \LWR@newautopagelabel{page}%

```

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.

```
6711 \begingroup%
6712 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
6713 \global\setbox\csname #2\endcsname=\vbox{%
6714     \unvbox\csname #2\endcsname%
}
```

Remember the footnote number for `\ref`:

```
6715 \protected@edef@\currentlabel{%
6716     \csname p@footnote\endcsname\@thefnmark%
6717 }% @currentlabel
```

Open a group:

```
6718 \color@begingroup%
```

Disable CJK `xpinyin` while generating footnotes.

```
6719 \LWR@disablepinyin%
```

Use `HTML` superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in `HTML`:

```
6720 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6721 \ifthenelse{%
6722     \boolean{\LWR@doingstartpars} \AND%
6723     \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
6724 }%
6725 {}%
6726 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
6727 \makefntext{#1}%

```

Closing paragraph tag:

```

6728     \ifthenelse{%
6729         \boolean{LWR@doingstartpars} \AND%
6730         \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6731     }%
6732     {\par}%
6733     {%
6734         \LWR@htmltagc{/LWR@tagregularparagraph}%
6735         \LWR@orignewline%
6736     }%

```

Close the group:

```

6737     \color@endgroup%
6738 }% vbox
6739 \endgroup%

```

Paragraph handling:

```

6740 \LWR@ensuredoingapar%
6741 }%

```

```

\LWR@footnotetext {<text>}

6742 \long\def\LWR@footnotetext#1{\LWR@@footnotetext{#1}{\LWR@footnotebox}}%

@\footnotetext {<text>}

6743 \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.

```

6744 \newbox\LWR@mpfootnotes

@\mpfootnotetext {<text>}

6745 \long\def@\mpfootnotetext#1{%
6746 \LWR@traceinfo{@mpfootnotetext}%
6747 \global\setbox\LWR@mpfootnotes\vbox{%
6748     \unvbox\LWR@mpfootnotes%
6749     \reset@font\footnotesize%
6750     \hsize\columnwidth%
6751     \parboxrestore%
6752     \protected@edef@\currentlabel%
6753         {\csname p@mpfootnote\endcsname\@thefnmark}%
6754     \color@begingroup%

```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```

6755      \ifthenelse{%
6756          \boolean{LWR@doingstartpars} \AND%
6757          \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6758      }%
6759      {}%
6760      {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

6761      \@makefntext{%
6762          \ignorespaces#1%
6763      }%

```

Don't add the closing paragraph tag if are inside a `\textrimage`:

```

6764      \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}{%
6765          {}%
6766          {}%
6767          \leavevmode\LWR@orignewline%
6768          \LWR@htmltagc{/}\LWR@tagregularparagraph}%
6769          \LWR@origpar%
6770      }%
6771      \color@endgroup%
6772 }% vbox

```

Paragraph handling:

```

6773 \LWR@ensuredoingapar%
6774 \LWR@traceinfo{@mpfootnotetext: done}%
6775 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

6776 \AtBeginDocument{%
6777     \def\thempfootnote{\@alph\c@mpfootnote}%
6778 }

```

## 60.6 Printing pending footnotes

```

\LWR@@printpendingfootnotes {\langle footnote counter name\rangle}

6779 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6780 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6781     \LWR@forcenewpage
6782     \begin{BlockClass}{note}{footnotes}%

```

Create a new autopage in case citation back references occur inside the footnotes:

```

6783     \LWR@newautopagelabel{page}%

```

---

```

6784     \null
6785     \unvbox\csuse{LWR@#1box}
6786     \setbox\csuse{LWR@#1box}=\vbox{}
6787     \end{BlockClass}
6788     \ifltxcounter{#1Reset}{%
6789         \ifnumgreater{\value{#1Reset}}{0}{%
6790             \setcounter{#1}{\value{#1Reset}}%
6791             \addtocounter{#1}{-1}%
6792         }{}%
6793     }{}%
6794 \fi
6795 }

```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6796 \newcommand*{\LWR@printpendingfootnotes}{%
6797     \LWR@@printpendingfootnotes{footnote}%
6798 }

```

\LWR@maybeprintpendingfootnotes  $\{\langle depth \rangle\}$  Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6799 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6800 \ifboolexpr{%
6801     not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6802     bool{FormatEPUB} or
6803     bool{FormatWP}%
6804 }{}%
6805 {\LWR@printpendingfootnotes}%
6806 {}%
6807 }

```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```

6808 \newcommand*{\LWR@printpendingmpfootnotes}{%
6809 \ifvoid\LWR@mpfootnotes\else
6810     \LWR@forcenewpage
6811     \begin{BlockClass}(note){footnotes}%
6812     \null
6813     \unvbox\LWR@mpfootnotes
6814     \setbox\LWR@mpfootnotes=\vbox{}%
6815     \end{BlockClass}
6816 \fi
6817 }

6818 \end{warpHTML}

```

## 61 Marginpars

\marginpar  $[\langle left \rangle] \{\langle right \rangle\}$  \marginpar may contains paragraphs, but in order to re-

main inline with the surrounding text `\warp` 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:** 6819 `\begin{warpHTML}`

```
\marginpar [⟨left⟩] {⟨right⟩}

6820 \renewcommand{\marginpar}[2][]{%
6821 \ifbool{FormatWP}{%
6822 {%
6823 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}(note){marginblock}%
6824 #2
6825 \end{LWR@BlockClassWP}%
6826 }%
6827 {%
6828     \LWR@html\span{note}{\marginpar}{#2}%
6829 }%
6830 }
```

`\marginparBlock [⟨left⟩] {⟨right⟩}`

For use when the `\marginpar` will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6831 \newcommand{\marginparBlock}[2][]{%
6832 \LWR@stoppars%
6833 \ifbool{FormatWP}{%
6834 {%
6835     \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}(note){marginblock}%
6836     #2
6837     \end{LWR@BlockClassWP}%
6838 }{%
6839     \begin{BlockClass}[width:2in; float:right; margin:10pt](note){marginparblock}%
6840     #2
6841     \end{BlockClass}%
6842 }%
6843 \LWR@startpars%
6844 }
```

`\reversemarginpar`

```
6845 \renewcommand*{\reversemarginpar}{}{}
```

`\normalmarginpar`

```
6846 \renewcommand*{\normalmarginpar}{}{}
```

---

6847 \end{warpHTML}

**for PRINT output:** 6848 \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.

6849 \LetLtxMacro\marginparBlock\marginpar

6850 \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`.

6851 `\newcounter{LWR@currentautosecpage}`  
6852 `\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.

6853 `\newcounter{LWR@currentautosecfloatpage}`  
6854 `\setcounter{LWR@currentautosecfloatpage}{1}`

Ctr `LWR@previousautopagelabel` Remembers which autopage label was most recently generated. Used to avoid duplicates.

6855 `\newcounter{LWR@previousautopagelabel}`  
6856 `\setcounter{LWR@previousautopagelabel}{-1}`

---

```
\LWR@newautopagelabel {⟨pagenumber counter⟩}
```

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
6857 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
6858 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}%
6859     {}%
```

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.

```
6860     {%
6861         \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
6862     \ifnumequal{\value{#1}}{\value{page}}%
6863         {}%
6864         {\label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
6865     \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6866     }%
6867 }
```

```
\LWR@null@newautopagelabel {⟨pagenumber counter⟩}
```

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
6868 \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:** 6869 \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.

6870 \newcounter{FileDepth}  
6871 \setcounter{FileDepth}{-5}

Bool CombineHigherDepths Comile higher-level sections together into one file?

6872 \newbool{CombineHigherDepths}  
6873 \booltrue{CombineHigherDepths}

\FilenameLimit Maximum length of the generated filenames.

6874 \newcommand\*\{\FilenameLimit}{80}  
6875 \end{warpall}

**for HTML output:** 6876 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

6877 \AtBeginDocument{  
6878 \ifbool{FileSectionNames}{%  
6879 {\newcommand\*\{\LWR@thisfilename}{\HomeHTMLFilename}}  
6880 {\newcommand\*\{\LWR@thisfilename}{0}}  
6881 }}

\LWR@thisnewfilename The filename being sanitized.

6882 \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.

6883 \NewDocumentCommand{\LWR@simplifyname}{s m}{%  
6884 \IfBooleanTF{#1}{%  
6885 \StrSubstitute{\LWR@thisnewfilename}{%  
6886 {\detokenize{#2}}}{%  
6887 {\detokenize{-}}[\LWR@thisnewfilename]}%  
6888 }{ %  
6889 \StrSubstitute{\LWR@thisnewfilename}{%  
6890 {\#2}}{ %  
6891 {\detokenize{-}}[\LWR@thisnewfilename]}%  
6892 }  
6893 }

---

\LWR@simplifystyle User-defined filename simplifications. Redefine with \newcommand.

6894 \newcommand\*\{\LWR@simplifystyle\}{}{}

\FilenameSimplify \* {\i<phrase>} Assign a user-defined filename simplification. Appends to \LWR@simplifystyle.

```
6895 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6896   \IfBooleanTF{#1}{%
6897     \appto{\LWR@simplifystyle}{%
6898       \LWR@simplifyname*{#2}}%
6899     }%
6900   }%
6901   \appto{\LWR@simplifystyle}{%
6902     \LWR@simplifyname{#2}}%
6903   }%
6904 }%
6905 }
```

\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.

```
6906 \newcommand*\{\LWR@avoiddupfilenames\}{%
6907   To avoid duplicate filenames, use the optional\MessageBreak
6908   short Table of Contents entry:\MessageBreak
6909   \space\space\protect\section[Unique name, no math]{Name with math}%
6910   \MessageBreak
6911   or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6912   \space\space%
6913   \protect\section{\MessageBreak
6914     \space\space\space\space\protect\texorpdfstring\MessageBreak
6915       \space\space\space\space\space\space%
6916       {Name with math}{Unique name, no math}\MessageBreak
6917     \space\space}%
6918 }
```

\LWR@filenamenoblanks {\i<filename>}

Convert blanks into dashes, removes short words, store result in \LWR@thisfilename.

Also see \LWR@nullfonts for nullified macros.

```
6919 \newcommand*\{\LWR@filenamenoblanks\}[1]{%
6920 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
6921 \LWR@nullfonts%
6922 \renewcommand*\{\LWR@htmlltagc\}[1]{}%
6923 \edef\LWR@thisnewfilename{\#1}%
```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```

6924 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{\}%
6925 \LWR@simplifyname{\_}
6926 \LWR@simplifyname{\#}
6927 \LWR@simplifyname{\textbackslash}
6928 \LWR@simplifyname{\protect}
6929 \LWR@simplifyname{\ }
6930 \LWR@simplifyname{\textless}
6931 \LWR@simplifyname{\textgreater}

6932 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%

```

Warn if there is dollar math in the section name:

```

6933 \ifbool{FileSectionNames}{%
6934   \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
6935     \PackageWarning{lwarp}{%
6936       {%
6937         This section name:\MessageBreak
6938         \space\space‘‘\detokenize\expandafter{\#1}’’\MessageBreak
6939         at the line number listed below,\MessageBreak
6940         is using $dollar-delimited math$,
6941         which generates\MessageBreak
6942         complicated file names. It is better to use\MessageBreak
6943         \space\space%
6944         \protect\section{Name with \protect\left( parenthesis math\protect\right)\}%
6945         \MessageBreak
6946         The math then will be removed from the file name.\MessageBreak
6947         \MessageBreak
6948         \LWR@avoiddupfilenames%
6949         \MessageBreak
6950         This section is found before or%
6951       }%
6952     }{}%
6953 }{}}

6954 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisnewfilename!}%
6955 \fullexpandarg%

```

Convert spaces into hyphens:

```
6956 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```

6957 \LWR@simplifyname*{*}
6958 \LWR@simplifyname*{()}
6959 \LWR@simplifyname*{(){}}
6960 \LWR@simplifyname*{..}
6961 \LWR@simplifyname*{!}
6962 \LWR@simplifyname*{,}
6963 \LWR@simplifyname*{'}
6964 \LWR@simplifyname*{+}

```

```
6965 \LWR@simplifyname*/{/}
6966 \LWR@simplifyname*{:}
6967 \LWR@simplifyname*{;}
6968 \LWR@simplifyname*{=}
6969 \LWR@simplifyname*{?}
6970 \LWR@simplifyname*{@}
6971 \LWR@simplifyname*{^}
6972 \LWR@simplifyname*{&}
6973 \LWR@simplifyname*{"}
6974 \LWR@simplifyname*{<}
6975 \LWR@simplifyname*{>}
```

```
6976 \LWR@simplifyname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
6977 \StrSubstitute{\LWR@thisnewfilename}%
6978     {\LWRleftbrace{}[\LWR@thisnewfilename]}%
6979 \StrSubstitute{\LWR@thisnewfilename}%
6980     {\LWRrightbrace{}[\LWR@thisnewfilename]}%
```

```
6981 \LWR@simplifyname{\LWRpercent}
6982 \LWR@simplifyname{\LWRdollar}
```

```
6983 \LWR@simplifyname*{|}
6984 \LWR@simplifyname*{^}
6985 \LWR@simplifyname*{~}
6986 \LWR@simplifyname*{[]}
6987 \LWR@simplifyname*{[]}
6988 \LWR@simplifyname*{`}
```

Convert short words:

```
6989 \LWR@simplifyname*{-s-}
6990 \LWR@simplifyname*{-S-}
6991 \LWR@simplifyname*{-a-}
6992 \LWR@simplifyname*{-A-}
6993 \LWR@simplifyname*{-an-}
6994 \LWR@simplifyname*{-AN-}
6995 \LWR@simplifyname*{-to-}
6996 \LWR@simplifyname*{-TO-}
6997 \LWR@simplifyname*{-by-}
6998 \LWR@simplifyname*{-BY-}
6999 \LWR@simplifyname*{-of-}
7000 \LWR@simplifyname*{-OF-}
7001 \LWR@simplifyname*{-and-}
7002 \LWR@simplifyname*{-AND-}
7003 \LWR@simplifyname*{-for-}
7004 \LWR@simplifyname*{-FOR-}
7005 \LWR@simplifyname*{-the-}
7006 \LWR@simplifyname*{-THE-}
```

Convert custom words:

---

7007 \LWR@simplifycustom%

If pdflATEX and not utf8 encoding, don't try to convert emdash, endash:

```
7008 \ifPDFTeX% pdflatex or dvi latex
7009 \ifdefstring{\inputencodingname}{utf8}{%
7010     \LWR@simplifyname*{-}
7011 %     emdash
7012     \LWR@simplifyname*{-}
7013 %     endash
7014 }{}%
7015 \else% not PDFTeX
7016     \LWR@simplifyname*{-}
7017     \LWR@simplifyname*{-}
7018 \fi%
```

Convert multiple hyphens:

```
7019 \LWR@simplifyname*{----}
7020 \LWR@simplifyname*{---}
7021 \LWR@simplifyname*{--}
7022 \LWR@simplifyname*{--}
```

If starts with a dash, remove the leading dash:

```
7023 \IfBeginWith{\LWR@thisfilename}{\detokenize{-}}{%
7024     \StrGobbleLeft{\LWR@thisfilename}{1}[\LWR@thisfilename]%
7025 }{}%
```

If ends with a dash, remove the trailing dash:

```
7026 \IfEndWith{\LWR@thisfilename}{\detokenize{-}}{%
7027     \StrGobbleRight{\LWR@thisfilename}{1}[\LWR@thisfilename]%
7028 }{}%
```

Limits the length of the filename:

```
7029 \StrLeft{\LWR@thisfilename}{\FilenameLimit}[\LWR@thisfilename]%
```

Return the global result:

```
7030 \global\let\LWR@thisfilename\LWR@thisfilename%
7031 \endgroup%
7032 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
7033 }
```

### 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.

```
7034 \bgroup
7035 \catcode`!=3 \catcode`?=3
7036
7037 \long\gdef\LWR@replacestrings{addto#1#2{%
7038   \expandafter\def\expandafter#1\expandafter{#1#2}%
7039 }
7040
7041 \gdef\LWR@replacestrings#1#2{%
7042   \long\def\LWR@replacestringsA##1{\def\tmpb{##1}\LWR@replacestringsB}%
7043   \long\def\LWR@replacestringsB##1{%
7044     \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{##1}%
7045     \expandafter\LWR@replacestringsB\fi%
7046   }%
7047   \expandafter\improvedversion<May 2016> inspired
7048   \long\def\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
7049   \def\tmpb{##1}%
7050   }\expandafter\LWR@replacestringsA\tmpb%
7051 }
7052 \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.

```
7053 \newbool{LWR@MathJax@silentquotes}
7054 \boolfalse{LWR@MathJax@silentquotes}
```

`\LWR@subHTMLsanitize` \LWR@strresult must first be set by \LWR@HTMLsanitize, \LWR@HTMLsanitizeexpand, or \CustomizeMathJax.

```
7055 \catcode`\#=12
7056 \catcode`\&=12
7057 \newcommand{\LWR@subHTMLsanitize}{%
```

The &, <, and > may be interpreted by the browser:

```
7058   \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7059   \LWR@replacestrings{&}{&#38;}%
7060   \LWR@replacestrings{<}{&lt;}%
7061   \LWR@replacestrings{>}{&gt;}%
```

The quotes occasionally causes problems. For `mathspec`, also allow neutralization of \" and the " character.

```
7062   \ifbool{LWR@MathJax@silentquotes}{%
```

---

```

7064      \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{}%
7065      \LWR@replacestrings"{}{}%
7066      }%
7067      {\LWR@replacestrings{"}{"}}%
7068      \LWR@replacestrings'{'}{'}%'
7069      \LWR@replacestrings{''}{`}%

```

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.

```

7070      \LWR@replacestrings{##}{#}%
7071      \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7072  }%
7073 \catcode`\#=6
7074 \catcode`\&=4

```

`\LWR@HTMLsanitize {<text>}`

```
7075 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French `babel` character handling, and fully expand the strings:

```

7076  \begingroup%
7077  \LWR@hook@processingtags%
7078  \edef\LWR@strresult{\detokenize{\#1}}%
7079  \LWR@subHTMLsanitize%
7080  \LWR@strresult%
7081  \endgroup%
7082 }

```

`\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.

```

7083 \edef\LWR@beginospaceleftbrace{\begin \LWRleftbrace}
7084 \edef\LWR@beginospaceleftbrace{\detokenize\expandafter{\LWR@beginospaceleftbrace}}
7085 \edef\LWR@beginleftbrace{\begin\LWRleftbrace}
7086 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7087
7088 \edef\LWR@endspacerightbrace{\end \LWRrightbrace}
7089 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
7090 \edef\LWR@endrightbrace{\end\LWRrightbrace}
7091 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7092
7093 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%

```

Cancel French `babel` character handling, and fully expand the strings:

```

7094  \begingroup%
7095  \LWR@hook@processingtags%

```

The difference between this and `\LWR@HTMLsanitize` (without “expand”) is the following `\expandafter`:

```
7096 \edef\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.

```
7097 \protect\StrSubstitute{\LWR@strresult}%
7098   {\LWR@beginospaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
7099 \protect\StrSubstitute{\LWR@strresult}%
7100   {\LWR@endspacerrightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

7101 \LWR@subHTMLsanitize%
7102 \LWR@strresult%
7103 \endgroup%
7104 }
```

## 63.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
7105 \newcommand*{\LWR@customizedMathJax}{}%
```

`Bool` Used to issue only one warning about using a `\CustomizeMathJax` per macro.

```
LWR@warnedcustomizemathjax
7106 \newbool{LWR@warnedcustomizemathjax}
7107 \boolfalse{LWR@warnedcustomizemathjax}
```

`\LWR@subcustomizedmathjax`  $\{\langle macro\ definition\rangle\}$

```
7108 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7109   \begingroup%
7110   \LWR@hook@processingtags%
7111   \edef\strresult{\detokenize{\#1}}%
7112   \LWR@subHTMLsanitize%
7113   \xdef\LWR@customizedMathJax{%
7114     \LWR@customizedMathJax%
7115     \strresult%
7116   }%
7117   \endgroup%
7118 }
7119 \onlypreamble\LWR@subcustomizedmathjax
```

`\CustomizeMathJax`  $\{\langle macro\ definition\rangle\}$

A warning is issued if a very long argument is given.

```
7120 \newcommand*{\CustomizeMathJax}[1]{%
```

```

7121  \ifbool{LWR@warnedcustomizemathjax}{}{%
7122    \StrLen{\detokenize{\#1}}[\LWR@tempone]%
7123    \ifnumgreater{\LWR@tempone}{350}{%
7124      \AtEndDocument{%
7125        \PackageWarningNoLine{l warp}{%
7126          To ensure faster MathJax compilation, place each \MessageBreak
7127          custom macro in its own \protect\CustomizeMathJax. \MessageBreak
7128          See the L warp documentation regarding customizing \MessageBreak
7129          MathJax%
7130        }%
7131      }%
7132      \booltrue{LWR@warnedcustomizemathjax}%
7133    }{}%
7134  }%
7135  \appto{\LWR@customizedMathJax}{\LWRbackslash()%
7136  \LWR@subcustomizedmathjax{\#1}%
7137  \appto{\LWR@customizedMathJax}{\LWRbackslash}\par}%
7138 }
7139 \onlypreamble\CustomizeMathJax

\LWR@infoprocessingmathjax {<package name>}

7140 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7141 \typeout{---}
7142 \typeout{Package l warp: Processing MathJax customizations for #1.}
7143 \typeout{\space\space This may take a moment.}
7144 \typeout{---}
7145 }

```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>Xin \LWR@doendequation.

First, \footnotename for MATHJAX is copied from L<sup>A</sup>T<sub>E</sub>X.

```

7146 \providecommand{\footnotename}{footnote}
7147
7148 % due to warpMathJax:
7149 \end{warpHTML}
7150
7151 \begin{warpMathJax}
7152 \xdef{\LWR@customizedMathJax}{\LWR@customizedMathJax%
7153   \LWRbackslash(%
7154   \LWRbackslash{}newcommand%
7155   {\LWRbackslash{}footnotename}\%
7156   {\footnotename}\%
7157   \LWRbackslash)\par}%
7158 }

```

---

```
7159 \end{warpMathJax}
```

\LWRfootnote is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to \footnotename.

```
7160 \begin{warpMathJax}
7161 \CustomizeMathJax{\def\LWRfootnote{1}}
7162 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{#1}}}}
7163 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{#1}}}}
```

\hspace is modified to accept and ignore a star:

```
7164 \CustomizeMathJax{\let\LWRorighspace\hspace}
7165 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}
```

Various other customizations:

```
7166 \CustomizeMathJax{\newcommand{\mathnormal}[1]{{#1}}}
7167 \CustomizeMathJax{\newcommand\ensuremath[1]{{#1}}}
7168 \CustomizeMathJax{\% absorb two optional arguments
7169   \newcommand{\LWRframebox}[2][]{\fbox{#2}}
7170   \newcommand{\framebox}[1][]{\LWRframebox}
7171 }
7172 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7173 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7174 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7175 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7176 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7177 \CustomizeMathJax{\newcommand{\number}[1]{}}
7178 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \\}}
7179 \CustomizeMathJax{\newcommand{\cline}[1]{}}
7180 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7181 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}
```

\protect, \mathchar, and \delimiter are silently discarded; and \mathcode and \delcode are ignored.

```
7182 \CustomizeMathJax{\newcommand{\protect}{}}
7183 \CustomizeMathJax{\def\LWRabsorbnr{\#1}}
7184 \CustomizeMathJax{\def\LWRabsorbqnum{\#1}}
7185 \CustomizeMathJax{\newcommand{\LWRabsorbopt}{1}}
7186 \CustomizeMathJax{\newcommand{\LWRabsorbtwoopt}{1}}
7187 \CustomizeMathJax{\def\mathchar{\ifnextchar{\LWRabsorbqnum}{\LWRabsorbnr}}}
7188 \CustomizeMathJax{\def\mathcode{\#1}{\mathchar}}
7189 \CustomizeMathJax{\let\delcode\mathcode}
7190 \CustomizeMathJax{\let\delimiter\mathchar}
7191 \end{warpMathJax}
7192
7193 \begin{warpHTML}% due to warpMathJax
```

\LWR@customizeMathJax Prints MATHJAX commands to the HTML output.

```
7194 \newcommand{\LWR@customizeMathJax}{%
7195 \ifbool{mathjax}{%
```

```
7196 \LWR@stopars
7197 \LWR@htmlcomment{MathJax customizations:}
7198
7199 \begin{BlockClass}{hidden}
7200 \LWR@stopars
```

Avoid ligatures while printing MATHJAX customizations:

```
7201 {
7202     \LWR@print@ttfamily
7203     \LWR@customizedMathJax
7204 }
7205 \LWR@startpars
7206 \end{BlockClass}
7207
7208 \LWR@startpars
7209 }{}
7210 }
```

```
7211 \end{warpHTML}
```

**for PRINT output:** 7212 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
7213 \newcommand*{\CustomizeMathJax}[1]{}
\FilenameSimplify * {\langle expression \rangle}
7214 \NewDocumentCommand{\FilenameSimplify}{s m}{}{}
7215 \end{warpprint}
```

**for HTML output:** 7216 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```
7217 \newcommand*{\LWR@createfooter}{%
7218     \ifnumless{\value{\LWR@htmlseqfilenumber}}{1}{%
7219         \ifdefempty{\LWR@firstpagebottom}{%
7220             \LWR@htmlelement{footer}
7221
7222             \LWR@firstpagebottom
7223
7224             \LWR@htmlelementend{footer}
7225         }%
7226     }{%
7227         \ifdefempty{\LWR@pagebottom}{%
7228             \LWR@htmlelement{footer}
7229
7230             \LWR@pagebottom
7231     }%
```

---

```

7232           \LWR@htmlelementend{footer}
7233     }%
7234   }%
7235 }
```

\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.

```

7236 \newcommand*{\LWR@newhtmlfile}[1]{
7237 \LWR@traceinfo{\LWR@newhtmlfile}
```

At the bottom of the ending file:

```

7238 \LWR@htmlelementclassend{section}{textbody}
7239 \LWR@htmlelementclassend{main}{bodycontainer}
7240 \LWR@htmlelementclassend{div}{bodyandsidetoc}
7241
7242 \LWR@printpendingfootnotes
7243
```

No footer between files if EPUB:

```
7244 \ifbool{FormatEPUB}{}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```

7245 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7246   {}
7247   {\ifnumcomp{\value{\LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```

7248 \LWR@stoppars
7249 \LWR@htmlltag{/body}\LWR@orignewline
7250 \LWR@htmlltag{/html}\LWR@orignewline
7251 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewpage}
7252 \LWR@maybe@orignewpage

7253 \addtocounter{\LWR@htmlfilename}{1}%
7254 \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.

```

7255 \ifbool{FileSectionNames}%
7256 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7257     \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7258     \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
7259     \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.

```
7260     \csdef{\LWR@filename\LWR@hashedname}{}%
7261     }%
```

If the filename is not unique, create an error.

```
7262     \PackageError{lwarp}%
7263     {%
7264         The section name:\MessageBreak
7265         ‘‘#1’’,\MessageBreak
7266         at the line number listed below,\MessageBreak
7267         generates the filename\MessageBreak
7268         ‘‘\LWR@thisfilename’’,\MessageBreak
7269         which appears to be a duplicate. There is a\MessageBreak
7270         previous section with an identical or similar name.\MessageBreak
7271         While generating file names, Lwarp sanitizes math,\MessageBreak
7272         most symbols, and a few common short words,\MessageBreak
7273         and this may cause a conflict.\MessageBreak
7274         Enter ‘H’ for possible solutions%
7275     }%
7276     {%
7277         \LWR@avoiddupfilenames%
7278     }%
7279 }%
7280 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7281 {\renewcommand*{\LWR@thisfilename}{\arabic{\LWR@htmlfilename}}}
```

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.

```
7282 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%
```

\LWR@nullfonts to allow math in a section name.

```
7283 \begingroup%
7284 \LWR@nullfonts%
7285 \LWR@htmlblockcomment{%
7286 |Start file|%
7287 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7288 }
7289 \endgroup%
```

At the top of the starting file:

```
7290 \LWR@stopars
7291
```

Start a new file with the given section name:

```
7292 \LWR@filestart[#1]
7293
```

Track the PDF page numbers of the HTML output. This is updated more frequently than LWR@currentautosecpage.

```
7294 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7295 \LWR@newautopagelabel{LWR@currentautosecfloatpage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7296 \ifthenelse{\boolean{FormatEPUB} \OR \boolean{FormatWP}}
7297   {}
7298   {\LWR@topnavigation}
7299
```

No header if between files if formatting for an EPUB or word processor:

```
7300 \ifthenelse{\boolean{FormatEPUB} \OR \boolean{FormatWP}}
7301   {}
7302   {

7303     \ifdefempty{\LWR@pagetop}{%
7304       \LWR@htmlelement{header}
7305     %
7306     \LWR@pagetop
7307     %
7308     \LWR@htmlelementend{header}
7309   }
7310 }
```

The container for the sidetoc and text body:

```
7312 \LWR@htmlelementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

---

```

7313 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7314     {}
7315     {\LWR@sidetoc}
7316

```

Start of the <textbody>:

```

7317 \LWR@htmlelementclass{main}{bodycontainer}
7318 \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.

```

7319 \boolfalse{\LWR@setseqfilelabel}

```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

7320 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7321     {}%
7322     {%
7323         \ifcvoid{\thetitle}{}{%
7324             \LWR@printthetitle%
7325         }%
7326     }%

```

Keep paragraph tags disabled for now:

```

7327 \LWR@stoppars
7328

```

If using MATHJAX, print the customizations here.

```

7329 \LWR@customizeMathJax
7330 \LWR@traceinfo{\LWR@newhtmlfile: done}
7331 }
7332 \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.

|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unicode</b>                                          | Section names and the resulting filenames with accented characters are partially supported, depending on the ability of <i>pdflatex</i> to generate characters and <i>pdftotext</i> to read them. If extra symbols appear in the text, it may be that <i>pdflatex</i> is actually producing a symbol over or under a character, resulting in <i>pdftotext</i> picking up the accent symbol separately. |
| <span style="color: red;">⚠</span> accents in filenames |                                                                                                                                                                                                                                                                                                                                                                                                        |

X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<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:** 7333 \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.

```
7334 \newbool{LWR@forcinghtmlpage}
7335 \boolefalse{LWR@forcinghtmlpage}
7336
7337 \newcommand*{\ForceHTMLPage}{%
7338 \global\booltrue{LWR@forcinghtmlpage}%
7339 }
```

\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.

```
7340 \newbool{LWR@forcinghtmltoc}
7341 \boolefalse{LWR@forcinghtmltoc}
7342
7343 \newcommand*{\ForceHTMLTOC}{%
7344 \global\booltrue{LWR@forcinghtmltoc}%
7345 }
```

```
7346 \end{warpHTML}
```

**for PRINT output:** 7347 \begin{warpprint}
7348 \newcommand\*{\ForceHTMLPage}{}
7349 \newcommand\*{\ForceHTMLTOC}{}
7350 \end{warpprint}

**for HTML output:** 7351 \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.

---

```

7352 \newbool{LWR@mainmatter}
7353 \DeclareDocumentCommand{\mainmatter}{}{%
7354 \booltrue{LWR@mainmatter}}%
7355 }

```

\frontmatter Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7356 \DeclareDocumentCommand{\frontmatter}{}{%
7357 \boolefalse{LWR@mainmatter}}%
7358 }

```

\backmatter Declare the back matter section of the document. Does not reset the page number.

```

7359 \DeclareDocumentCommand{\backmatter}{}{%
7360 \boolefalse{LWR@mainmatter}}%
7361 }

```

### 64.3 Sectioning support macros

\LWR@sectionnumber {\langle section type\rangle}

Typeset a section number and its trailing space with css formatting:

```

7362 \newcommand*{\LWR@sectionnumber}[1]{%
7363 \InlineClass{sectionnumber}{#1}}%
7364 }

```

autosec A tag used by the TOC and index.

\LWR@createautosec {\langle section type\rangle}

Create an autosection tag.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```

7365 \newcommand*{\LWR@createautosec}[1]{%
7366 \LWR@htmntag{%
7367     #1 % space
7368     id=\textquotedbl\LWR@print@mbox{autosec-\arabic{page}}\textquotedbl}%
7369 }%
7370 }

```

\LWR@pushoneclose {\langle section type\rangle} 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.

```

7371 \NewDocumentCommand{\LWR@pushoneclose}{m}{%

```

```
7372 \LWR@traceinfo{\LWR@pushoneclose #1}%
7373     \LWR@pushclose{#1}%
7374 }
```

\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@stopars must be executed first.

```
7375 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7376 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7377 \LWR@pushoneclose{#1}%
7378 }
```

Ctr \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.

```
7379 \newcounter{\LWR@prevFileDepth}
7380 \setcounter{\LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

\@seccntformat {*<sectiontype>*}

```
7381 \def\@seccntformat#1{\csname the#1\endcsname\quad}
```

\simplechapterdelim Used by `tocbibind` and `anonchap`.

```
7382 \newcommand*\simplechapterdelim{}
```

\@chapcntformat {*<sectiontype>*}

\let to \@seccntformat by default, but may be redefined by \simplechapter and \restorechapter from `tocbibind` or `anonchap`.

```
7383 \let\@chapcntformat\@seccntformat
```

\@partcntformat {*<sectiontype>*}

\let to \@seccntformat by default, but may be redefined by `ctex`.

```
7384 \let\@partcntformat\@seccntformat
```

\@partnameformat Prints “Part” for part sections.

Nullified by **ctex**.

```
7385 \newcommand*{\@partnameformat}{\LWR@isolate{\partname}~}%
```

\LWR@printchaptername Print \chaptername in most cases, but this is nullified for **ctexbook**, **komascript**, **ujt\*** classes.

```
7386 \newcommand*{\LWR@printchaptername}{%
7387     \ifdefvoid{\chaptername}{}{\chaptername~}%
7388 }
```

\LWR@section \* [<TOC name>] {<name>} {<sectiontype>}

The common actions for the high-level sectioning commands.

```
7389 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7390 \IfValueTF{#2}{%
7391     {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
7392     {\LWR@traceinfo{\LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a <span>:

```
7393     \LWR@spanwarninvalid{section}%
7394 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7395 \LWR@stoppars%
7396 \LWR@startnewdepth{#4}%
```

Cancel special **minipage** horizontal space interaction:

```
7397 \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:

```
7398 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
7399 \IfBooleanT{#1}{\LWR@traceinfo{\LWR@section: starred}}%
7400 \ifbool{\LWR@forcinghtmlpage}{\LWR@traceinfo{\LWR@section: forcinghtmlpage}}{}%
7401 \ifthenelse{%
7402     \(
7403         \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7404         \(\cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7405         \(\boolean{\LWR@forcinghtmlpage}\)\%
7406     \)%
7407     \AND%
7408     \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{FileDepth}}%
7409     \AND%
7410     \(%
```

---

```

7411      \NOT\boolean{CombineHigherDepths}\OR%
7412      \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7413      \)%
7414      \AND%

7415      \(% phantomsection
7416      \NOT\isempty{#3}%
7417      \OR%
7418      \(\NOT\equal{#1}{\BooleanTrue}\)%
7419      \)%
7420 }%

```

If so: start a new HTML file:

```

7421 {%
  new file
7422   \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```

7423   \IfNoValueTF{#2}%

```

If no optional entry

```

7424     {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7425     {\LWR@newhtmlfile{#2}}%
7426 }% new file

```

Else: No new HTML file:

```

7427 {%
  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:

```

7428   \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
7429   \LWR@maybe@orignewpage%
7430 }% not new file
7431

```

Remember this section's name for \nameref:

```

7432 \IfValueT{#3}{%
7433   \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7434   \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7435 }%

```

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.

```
7436 \ifboolem{HTMLDebugComments}{%
7437     \begingroup%
7438     \LWR@nullfonts%
7439     \IfBooleanTF{#1}{ starred
7440         {\LWR@htmlcomment{Opening #4*}}}
7441     {%
7442         \IfNoValueTF{#2}{ short TOC
7443             {\LWR@htmlcomment{Opening #4 '#3'}}}
7444             {\LWR@htmlcomment{Opening #4 '#2'}}}
7445     } \LWR@newline%
7446     \endgroup%
7447 }{}}
```

For inline sections paragraph and subparagraph, start a new paragraph now:

```
7448 \ifthenelse{%
7449   \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7450 }%
7451 {\LWR@startpars}%
7452 { }%
```

Create the opening tag with an autosec:

```
7453 \LWR@traceinfo{\LWR@section{ about to \LWR@createautosec}}%
7454 \LWR@createautosec{\@nameuse{\LWR@tag#4}}%
```

7455 \setcounter{LWR@currentautosecpage}{\value{page}}%

Check if starred:

```
7456 \IfBooleanTF{\#1}{%  
7457 {%
```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```
7459     \ifbool{LWR@forcinghtmltoc}{%
7460     }%
7461         \addcontentsline{toc}{#4}{%
7462             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7463         }%
7464     }%
7465     {}%
7466 }% starred
```

Not starred, so step counter and add to toc:

7467 { % not starred

Only add a numbered TOC entry if section number is not too deep:

```
7468 \ifthenelse{%
7469     \cnttest{\@nameuse{LWR@depth#4}}}{<=}{\value{secnumdepth}}}%
```

```
7470      }%
7471      {%
    if secnumdepth
```

If in the main matter, step the counter and add the toc entry. For article class, `lwarp` assumes that all is mainmatter.

```
7472      \LWR@traceinfo{LWR@section: about to test main matter}%
7473      \ifbool{LWR@mainmatter}%
7474      {%
7475          \LWR@traceinfo{LWR@section: yes mainmatter}%
7476          \refstepcounter{#4}%

```

Add main matter numbered toc entry with the toc name or the regular name:

```
7477      \LWR@traceinfo{LWR@section: about to addcontentsline}%
7478      \addcontentsline{toc}{#4}%
7479      {%
7480          \protect\newline{%
7481              \@nameuse{pre#4name}%
7482              \@nameuse{the#4}%
7483              \@nameuse{post#4name}%
7484          }%
7485          {%
7486              \ignorespaces%
7487              \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7488          }%
7489      }%
7490      \LWR@traceinfo{LWR@section: finished addcontentsline}%
7491  }% end of if main matter
```

If not main matter, add unnumbered toc name or regular name:

```
7492      {%
    not main matter
    \LWR@traceinfo{LWR@section: no main matter}%
    \addcontentsline{toc}{#4}%
    \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
}
7497      }% end of not main matter
7498  }% end of secnumdepth
```

Deeper than secnumdepth, so add an unnumbered toc entry:

```
7499      {%
7500          \addcontentsline{toc}{#4}%
7501          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7502      }%
7503  }%
```

For part, print “Part”:

```
7504      \ifbool{LWR@mainmatter}%
7505      {%
7506          \ifthenelse{%
7507              \(\cnttest{\@nameuse{LWR@depth#4}}\){<=}}%
```

---

```

7508           {\value{secnumdepth}}\) \AND%
7509           \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7510       }%
7511       {\@partnameformat}%
7512   {}%

```

Print the section number:

```

7513   \LWR@traceinfo{LWR@section: about to print section number}%
7514   \ifthenelse{%
7515     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7516   }%
7517   {}%
7518   \ifstrequal{#4}{part}%
7519   {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7520   {}%
7521   \ifstrequal{#4}{chapter}%
7522   {}%

7523           \LWR@printchaptername%
7524           \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
7525       }%
7526       {\protect\LWR@sectionnumber{\@seccntformat{#4}}}%
7527   {}%
7528 }%
7529 {}%
7530 \LWR@traceinfo{LWR@section: finished print section number}%
7531 }{}%
7532 }% not starred

```

Print the section name:

```

7533 \LWR@traceinfo{LWR@section: about to print the section name}%
7534 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

7535 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7536 \LWR@htmntag{\@nameuse{LWR@tag#4end}}%
7537 \LWR@orignewline%

```

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.

```

7538 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7539 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7540 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%

```

If this is the first section found in this file, create a label for previous/next links:

---

```

7541 \ifbool{LWR@setseqfilelabel}{}{%
7542     \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7543     \booltrue{LWR@setseqfilelabel}%
7544 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7545 \ifthenelse{%
7546     \cnttest{@nameuse{LWR@depth#4}}<{\LWR@depthparagraph}%
7547 }%
7548     {\LWR@startpars}%
7549     {}%

```

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.

```

7550 \ifthenelse{%
7551     \NOT\equal{#1}{\BooleanTrue}\OR%
7552     \cnttest{@nameuse{LWR@depth#4}}= {\LWR@depthpart}%
7553 }%
7554     {% not starred
7555         \setcounter{LWR@prevFileDepth}{@nameuse{LWR@depth#4}}%
7556     }% not starred
7557     {}%

```

Reset to defaults if not a phantomsection:

```

7558 \ifstrempty{#3}%
7559     {}%
7560     {}%
7561         \global\boolearn{LWR@forcinghtmlpage}%
7562         \global\boolearn{LWR@forcinghtmltoc}%
7563     }%
7564 %
7565 \LWR@traceinfo{LWR@section: done}%
7566 }

```

## 64.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```

7567 \providecommand*{\prebookname}{}%
7568 \providecommand*{\postbookname}{}%

```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

---

```
7569 \providecommand*\prepartname{}  
7570 \providecommand*\postpartname{}
```

\prechaptername Usually null, but is used by `uj*` and `ut*` Japanese classes.  
\postchaptername

```
7571 \providecommand*\prechaptername{}  
7572 \providecommand*\postchaptername{}
```

\presectionname Always null, but provided here for algorithmic simplicity in `\LWR@section`.  
\postsectionname

```
7573 \providecommand*\presectionname{}  
7574 \let\postsectionname\presectionname  
7575  
7576 \let\presubsectionname\presectionname  
7577 \let\postsubsectionname\postsectionname  
7578  
7579 \let\presubsubsectionname\presectionname  
7580 \let\postsubsubsectionname\postsectionname  
7581  
7582 \let\preparagraphname\presectionname  
7583 \let\postparagraphname\postsectionname  
7584  
7585 \let\presubparagraphname\presectionname  
7586 \let\postsubparagraphname\postsectionname
```

## 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>}
```

```
7587 \newcommand{\part@preamble}{}% for koma-script  
7588  
7589 \DeclareDocumentCommand{\part}{s d() o o d() m}{%  
7590   \LWR@section{#1}{#3}{#6}{part}}%  
7591  
7592   \part@preamble% for koma-script  
7593   \renewcommand{\part@preamble}{}%  
7594 }
```

```
\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
```

```
7595 \let\@printcites\relax% for quotchap package  
7596  
7597 \newcommand{\chapter@preamble}{}% for koma-script
```

```

7598
7599 \@ifundefined{chapter}
7600 {}
7601 {%
7602     \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7603         \LWR@section{#1}{#3}{#6}{chapter}%
7604     }
7605     \@printcites% for quotchap package
7606
7607     \chapter@preamble% for koma-script
7608     \renewcommand{\chapter@preamble}{ }%
7609 }
7610 }

\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7611 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7612     \LWR@section{#1}{#3}{#6}{section}%
7613 }

\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7614 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7615     \LWR@section{#1}{#3}{#6}{subsection}%
7616 }

\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7617 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7618     \LWR@section{#1}{#3}{#6}{subsubsection}%
7619 }

\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7620 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7621     \LWR@section{#1}{#3}{#6}{paragraph}%
7622 }

\ subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
7623 \DeclareDocumentCommand{\ subparagraph}{s d() o o d() m}{%
7624     \LWR@section{#1}{#3}{#6}{subparagraph}%
7625 }

7626 \end{warpHTML}

```

## 65 Starting a new file

**for HTML & PRINT:** 7627 \begin{warpall}

\HTMLLanguage Default language for the **HTML lang tag**.

```
7628 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7629
7630 \newcommand*{\HTMLLanguage}[1]{%
7631     \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7632 }
```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall **HTML title** and the particular page's section name.

```
7633 \ifPDFTeX% pdflatex or dvi latex
7634     \ifdefstring{\inputencodingname}{utf8}{%
7635         \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7636     }{%
7637         \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7638     }%
7639 \else%
7640     \ifpTeX%
7641         \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7642     \else%
7643         \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMdash
7644     \fi%
7645 \fi%
```

\HTMLTitleBeforeSection Sets the **HTML page's meta title tag** to show the website title before the section name.

```
7646 \newcommand*{\HTMLTitleBeforeSection}{%
7647     \def\theHTMLTitleSection{%
7648         \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7649     }%
7650 }
```

\HTMLTitleAfterSection Sets the **HTML page's meta title tag** to show the section name before the website title.

```
7651 \newcommand*{\HTMLTitleAfterSection}{%
7652     \def\theHTMLTitleSection{%
7653         \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7654     }%
7655 }
```

\theHTMLTitleSection Forms the **HTML page's meta title tag**. The default is to show the website title before the section name.

```
7656 \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**.

```
7657 \newcommand*{\theHTMLSection}{}
```

```
7658 \end{warpall}
```

**for HTML output:** 7659 \begin{warpHTML}

\LWR@filestart [*section name*] Creates the opening HTML tags.

```
7660 \newcommand*{\LWR@filestart}[1][]{}%  
7661 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7662 \begingroup%  
7663 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7664 \edef\theHTMLSection{\#1}%
```

Remove extra material:

```
7665 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
```

```
7666 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
```

```
7667 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

```
7668 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

```
7669 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7670 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{}%  
7671     \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
```

```
7672 }{}}
```

Create the page's HTML header:

```
7673 \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.

```
7674 \LWR@htmltag{  
7675     html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%  
7676 } \LWR@orignewline
```

Start of the meta data:

```
7677 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7678 \LWR@htmltag{%
```

---

```
7679     meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7680 }\LWR@orignewline
```

Author:

```
7681 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7682     {}%
7683     {%
7684         \LWR@htmltag{%
7685             meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7686             content=\LWR@orig@textquotedbl{}\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7687         }\LWR@orignewline%
7688     }%
```

lwarp is the generator:

```
7689 \LWR@htmltag{%
7690     meta % space
7691     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7692     content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7693 }\LWR@orignewline%
```

If there is a description, add it now:

```
7694 \ifdefempty{\LWR@currentHTMLDescription}{%{%
7695     \LWR@htmltag{%
7696         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7697         content=\LWR@orig@textquotedbl{}\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7698     }\LWR@orignewline%
7699 }%
```

Mobile-friendly viewport:

```
7700 \LWR@htmltag{%
7701     meta % space
7702     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7703     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7704 }\LWR@orignewline
```

IE patch:

```
7705 \LWR@htmltag{!-/-[if lt IE 9]}\LWR@orignewline
7706 \LWR@htmltag{%
7707     script % space
7708     src=\LWR@orig@textquotedbl{}%
7709         http://html5shiv.googlecode.com/svn/trunk/html5.js%
7710     \LWR@orig@textquotedbl%
7711 }%
7712 \LWR@htmltag{/script}\LWR@orignewline
7713 \LWR@htmltag{![endif]-/-}\LWR@orignewline
```

The page's title, if there is one. A section name is also added if given.

```
7714 \ifthenelse{\equal{\theHTMLTitle}{}}{%
```

```

7715     {}%
7716     {%
7717         \LWR@htmltag{title}%
7718         \ifdefempty{\theHTMLSection}{%
7719             {\theHTMLTitle}%
7720             {\theHTMLTitleSection}%
7721             \LWR@htmltag{/title}\LWR@orignewline%
7722         }%

```

The page's stylesheet:

```

7723 \LWR@htmltag{%
7724     link % space
7725     rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7726     type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7727     href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7728 }%
7729 \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.

```

7730 \ifbool{mathjax}{%
7731 {%
7732     \begingroup%
7733     \LWR@restoreoriglists%
7734     \boolfalse{\LWR@verbtags}{}

7735     \IfFileExists{\LWR@mathjaxfilename}{%
7736         {\verbatiminput{\LWR@mathjaxfilename}}%
7737         {%
7738             \PackageError{lwarf}{%
7739                 \protect\MathJaxFilename\space specified the file\MessageBreak
7740                 \space\space\LWR@mathjaxfilename\MessageBreak
7741                 which does not exist%
7742             }%
7743             {Specify an existing file, or remove \protect\MathJaxFilename.}%
7744         }%
7745     }%
7746     \booltrue{\LWR@verbtags}%
7747     \endgroup%
7748     \LWR@stoppars%
7749 }% end of mathjax
7750 {}%

```

End of the header:

```
7751 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
7752 \LWR@htmltag{body}\LWR@orignewline
```

---

```

7753 \endgroup%
7754 \LWR@traceinfo{\LWR@filestart: done}%
7755 }

7756 \end{warpHTML}

```

## 66 Starting HTML output

**for HTML output:** 7757 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```

7758 \catcode`\$=\active
7759 \newcommand*{\LWR@LwarpStart}{%
7760 {%
7761 \LWR@traceinfo{\LWR@LwarpStart}}

```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```

7762 \ifbool{FormatWP}{%
7763   \setcounter{FileDepth}{-5}%
7764   \boolfalse{HTMLDebugComments}%
7765 }{%

```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```

7766 \edef\LWR@strresult{\HomeHTMLFilename}
7767 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7768 \edef\LWR@strresult{\HTMLFilename}
7769 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}

```

Force onecolumn and empty page style:

```

7770 \LWR@origonecolumn%
7771 \LWR@origpagestyle{empty}%

```

No black box for overfull lines:

```

7772 \overfullrule=0pt

```

Reduce chance of line overflow when HTML tags are added:

```

7773 \LWR@print@footnotesize%

```

In PDF output, don't allow line breaks to interfere with HTML tags:

```

7774 \LWR@print@raggedright%
7775 \LetLtxMacro{\\"{\LWR@endofline}}%

```

Spread the lines for *pdftotext* to read them well:

```
7776 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7777 \setlength{\parindent}{0pt}
7778 \setlength{\parskip}{2ex}
```

For the *lateximage* record file:

```
7779 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7780 \setlength{\belowcaptionskip}{0ex}
7781 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7782 \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:

```
7783 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7784 \global\boolfalse{\LWR@doingapar}
7785 \global\boolfalse{\LWR@doingstartpars}
```

Document and page settings:

```
7786 \mainmatter
7787 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7788 \LWR@traceinfo{\LWR@lwarpStart: Starting new file.}
7789 \LWR@filestart%
```

Tell *lwarpmk* that the *lwarp* package is in use. This allows *lwarpmk* to warn if *usepackage{lwarp}* was somehow disabled.

```
7790 \begingroup%
7791 \LWR@nullfonts%
7792 \LWR@htmlblockcomment{%
7793 |Using lwarp|%
7794 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7795 }%
7796 \endgroup%
```

---

```

7797 \LWR@traceinfo{\LWR@lwarpStart: Generating first header.}
7798 \ifdefempty{\LWR@firstpagetop}{}{%
7799   \LWR@htmlltag{header}\LWR@orignewline
7800   \LWR@startpars
7801   \LWR@firstpagetop
7802   \LWR@stoppars
7803   \LWR@htmlltag{/header}\LWR@orignewline
7804 }%
7805 \LWR@htmlelementclass{div}{bodywithoutsidetoc}
7806 \LWR@htmlelementclass{main}{bodycontainer}
7807 \LWR@traceinfo{\LWR@lwarpStart: Generating textbody.}
7808 \LWR@htmlelementclass{section}{textbody}

```

Create a label for previous/next links, and remember it has been done:

```

7809 \booltrue{\LWR@setseqfilelabel}%
7810 \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`.

```
7811 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
7812 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```

7813 \immediate\write\@mainaux{\catcode`\string$\active}%
7814 \LetLtxMacro{\LWR@syntaxhighlightone$}{\balance} % balance for editor syntax highlighting

```

Allow HTML paragraphs to begin:

```
7815 \LWR@startpars
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```

7816 \ifbool{mathjax}{
7817   \typeout{---}
7818   \typeout{Package lwarp:}
7819   \typeout{Processing MathJax customizations for the first HTML page.}
7820   \typeout{Later HTML pages will take the same amount of time.}
7821   \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7822 }{%
7823 
7824 \LWR@customizeMathJax
7825 
7826 \ifbool{mathjax}{
7827   \typeout{Done.}

```

---

```
7828     \typeout{---}
7829 }{}
```

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`.

```
7830 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7831 \LWR@newautopagelabel{LWR@currentautosecpage}%

7832 \LWR@traceinfo{LWR@lwarpStart: done}
7833 }
7834 \catcode`\$=3% math shift until lwarp starts

7835 \end{warpHTML}
```

## 67 Ending HTML output

**for HTML output:** 7836 `\begin{warpHTML}`

`\LWR@requesttoc {<boolean>} {<suffix>}` Requests that a TOC, LOF, or LOTbe generated.

```
7837 \newcommand*{\LWR@requesttoc}[2]{%
7838 \ifbool{#1}{%
7839 {%
7840     \expandafter\newwrite\@nameuse{tf@#2}%
7841     \immediate\openout \nameuse{tf@#2} \jobname.\relax
7842 }{}%
7843 }}
```

`\LWR@LwarpEnd` Final stop of all HTML output:

```
7844 \newcommand*{\LWR@LwarpEnd}{%
7845 {%
7846 \LWR@stopars
7847 \LWR@closeprevious{finished}}
```

At the bottom of the ending file:

Print any pending footnotes:

```
7848 \LWR@printpendingfootnotes
```

Close the textbody:

```
7849 \label{\BaseJobname-autofile-last}
7850 \LWR@htmlelementclassend{section}{textbody}
7851 \LWR@htmlelementclassend{main}{bodycontainer}
7852 \LWR@htmlelementclassend{div}{bodyandsidetoc}
```

Create the footer if not EPUB

```
7853 \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.

```
7854 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7855   {}
7856   {
7857     \ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}
7858   }
```

```
7859 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
7860 \LWR@htmllag{/body}\LWR@orignewline
7861 \LWR@htmllag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
7862 \LWR@maybe@orignewpage
7863 }
```

\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`.

```
7864 \ifdef{\AddToHook}{%
7865   \AddToHook{\enddocument/info}{%
7866     \if@filesw
7867       \ifx \multiplelabels \relax
7868         \if@tempswa
```

This is where warnings of duplicate labels would appear.

```
7869   \else
```

No duplicate labels, so safe to create images.

```
7870   \immediate\write\LWR@lateximagesfile{%
7871     |end|end|end|%
7872   }%
7873   \fi
7874   \fi\fi
7875 }
7876 }% newer kernel
7877 {% older kernel
7878   \xpatchcmd{\enddocument}
```

```

7879      {%
7880          \if@tempswa
7881              \@latex@warning@no@line{Label(s) may have changed.
7882              Rerun to get cross-references right}%
7883          \fi
7884      }
7885      {%
7886          \if@tempswa
7887              \@latex@warning@no@line{Label(s) may have changed.
7888              Rerun to get cross-references right}%
7889      \else

```

No duplicate labels, so safe to create images.

```

7890          \immediate\write\LWR@lateximagesfile{%
7891              |end|end|end|%
7892          }%
7893          \fi
7894      }
7895      {}
7896      {
7897          \AtEndDocument{
7898              \PackageWarningNoLine{l warp}
7899              {%
7900                  Could not patch \protect\enddocument.\MessageBreak
7901                  If labels have changed, be sure to recompile before\MessageBreak
7902                      creating lateximages with\MessageBreak
7903                      \space\space l warp\mk limages,\MessageBreak
7904                      or the images may be corrupt%
7905              }
7906          }
7907      }
7908 }% older kernel

```

## 68 Nullifying foreground/background hooks

See **texdoc lthooks-doc** and **texdoc ltshipout-doc**.

```

7909 \ifdef{\RemoveFromHook}{%
7910     \AfterEndPreamble{%
7911         \IfHookEmptyTF{shipout/background}{}{%
7912             \PackageInfo{l warp}{Removing background hook}%
7913             \RemoveFromHook{shipout/background}[*]%
7914         }%
7915         \IfHookEmptyTF{shipout/foreground}{}{%
7916             \PackageInfo{l warp}{Removing foreground hook}%
7917             \RemoveFromHook{shipout/foreground}[*]%
7918         }%
7919     }%
7920 }{%
7921 \end{warpHTML}

```

## 69 Title page

**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.

**\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.

**⚠ \theauthor, authblk**

**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** {{<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.

---

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>\printtitle \printauthor \printdate \HTMLPageBottom</pre> | <p>\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.</p> <p>\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 \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:</p> |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

```
\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:** 7922 \begin{warpall}

\if@titlepage Some classes do not provide \if@titlepage. In this case, provide it and force it false.

```
7923 \ifcvoid{@titlepagefalse} {
7924   \newif\if@titlepage
7925   \if@titlepagefalse
7926 }{}
```

7927 \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:** 7928 \begin{warpall}  
7929 \providerobustcmd{\affiliation}[1]{  
7930 \end{warpall}}

**for PRINT output:** 7931 \begin{warpprint}  
  
7932 \AtBeginEnvironment{titlepage}{  
7933 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}}  
7934 }  
7935  
7936 \AtBeginDocument{  
7937 \@ifpackageloaded{titling}{  
7938 \AtBeginEnvironment{titlingpage}{  
7939 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}}  
7940 }  
7941 }% titling loaded  
7942 }% AtBeginDocument  
  
7943 \end{warpprint}

**for HTML output:** 7944 \begin{warpHTML}

Env titlepage Sets up a `<div>` of class `titlepage`. Provided even for `memoir` class, since it is used by `\maketitle`.

```
7945 \DeclareDocumentEnvironment{titlepage}{}  
7946 {  
7947 \renewrobustcmd{\affiliation}[1]{\InlineClass{affiliation}{##1}}  
7948 \LWR@printpendingfootnotes  
7949 \LWR@forcenewpage  
7950 \BlockClass{titlepage}  
7951 }  
7952 {  
7953 \endBlockClass  
7954 \LWR@printpendingfootnotes  
7955 }
```

7956 \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:** 7957 \begin{warpprint}  
7958 \newcommand\*{\printthanks}{\@thanks}  
7959 \end{warpprint}

**for HTML output:** 7960 \begin{warpHTML}  
7961 \newcommand\*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}  
7962 \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:** 7963 `\begin{warpHTML}`

`\printtitle`

```
7964 \newcommand*\printtitle{%
7965 {%
7966     \LWR@stoppars%
7967     \LWR@htmlltag{\LWR@tagtitle}%
7968     \@title%
7969     \LWR@htmlltag{\LWR@tagtitleend}%
7970     \LWR@startpars%
7971 }
```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```
7972 \newcommand*\LWR@printthetitle{%
7973 {%
7974     \LWR@stoppars%
7975     \LWR@htmlltag{\LWR@tagtitle}%
7976     \thetitle%
7977     \LWR@htmlltag{\LWR@tagtitleend}%
7978     \LWR@startpars%
7979 }
```

`\printauthor` HTML version.

```
7980 \newcommand*\printauthor{
```

The entire author block is contained in a `<div>` named `author`:

```
7981 \begin{BlockClass}{author}
```

`\and` finishes one author and starts the next:

```
7982 \renewcommand{\and}{%
7983 \end{BlockClass}%
7984 \begin{BlockClass}{oneauthor}%
7985 }
```

Individual authors are contained in a `<div>` named `oneauthor`:

```
7986 \begin{BlockClass}{oneauthor}%
7987 \@author%
7988 \end{BlockClass}%
7989 \end{BlockClass}%
7990 }
```

---

```
\printdate

7991 \newcommand*{\printdate}{%
7992 \begin{BlockClass}{titledate}
7993 \@date
7994 \end{BlockClass}
7995 }

7996 \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:** 7997 `\begin{warpprint}`

```
\printtitle

7998 \newcommand*{\printtitle}{{\Huge \@title}}
```

\printauthor Print mode.

```
7999 \newcommand*{\printauthor}{%
8000 {{\large\begin{tabular}[t]{c}\@author\end{tabular}}}}
```

\printdate

```
8001 \newcommand*{\printdate}{{\small\textit{\@date}}}
```

```
8002 \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:** 8003 `\begin{warpHTML}`

```
8004 @ifclassloaded{memoir}
8005 {
8006 \newcommand{\LWR@setfootnoteseries}{%
8007 \renewcommand{\thefootnote}{\@arabic\c@footnote}%
8008 }
```

```

8009 }% not memoir
8010 \if@titlepage
8011 \newcommand{\LWR@setfootnoteseries}{%
8012     \renewcommand\thefootnote{\@arabic\c@footnote}%
8013 }
8014 \else
8015 \newcommand{\LWR@setfootnoteseries}{%
8016     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
8017 }
8018 \fi
8019 }% not memoir

```

\LWR@maketitlesetup Patches \thanks macros.

```
8020 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```

8021 \LWR@setfootnoteseries%
8022 \def\@makefnmark{%
8023     \textsuperscript{\thefootnote}%
8024 }

```

\thefootnote  $\Rightarrow$  \nameuse{arabic}{footnote}, or  
\thefootnote  $\Rightarrow$  \nameuse{fnsymbol}{footnote}

Redefine the footnote text:

```
8025 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8026 \textsuperscript{\@thefnmark}~%
```

\makethanksmark  $\Rightarrow$  \thanksfootmark  $\Rightarrow$  \tmark  $\Rightarrow$   
\@thefnmark  $\Rightarrow$  \itshape a (or similar)

Print the text:

```

8027 ##1%
8028 }%
8029 }

```

\@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*.

```

8030 \def\LWR@HTML@fnsymbol#1{%
8031     \ifcase#1\or *\or

```

```
8032  \HTMLentity{dagger}\or
8033  \HTMLentity{Dagger}\or
8034  \HTMLentity{sect}\or
8035  \HTMLentity{para}\or
8036  \HTMLunicode{2016}\or
8037  **\or
8038  \HTMLentity{dagger}\HTMLentity{dagger} \or
8039  \HTMLentity{Dagger}\HTMLentity{Dagger} \else
8040  \@ctrerr\fi%
8041 }
8042 \LWR@formatted{@fnssymbol}
```

\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.

```
8043 \renewcommand*\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
8044 \begin{titlepage}
```

Set up special patches:

```
8045 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8046 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8047 \LWR@stopars \@thanks \LWR@startpars
```

Close the HTML titlepage div and cleanup:

```
8048 \end{titlepage}
8049 \setcounter{footnote}{0}%
8050 \global\let\thanks\relax
8051 \global\let\maketitle\relax
8052 \global\let\@maketitle\relax
8053 \global\let\@thanks\empty
8054 \global\let\@author\empty
8055 \global\let\@date\empty
8056 \global\let\@title\empty
8057 \global\let\title\relax
8058 \global\let\author\relax
8059 \global\let\date\relax
8060 \global\let\and\relax
8061 }
```

\@maketitle HTML mode. Typesets the title, etc.:

```
8062 \DeclareDocumentCommand{\@maketitle}{}{%
8063   \LWR@stoppars%
8064   \LWR@htmlltag{\LWR@tagtitle}%
8065   \@title%
8066   \LWR@htmlltag{\LWR@tagtitleend}%
8067   \LWR@startpars%
8068   \begin{BlockClass}{author}%
```

For **IEEEtran** class:

```
8069   \renewcommand*\cr{}%
8070   \renewcommand*\crrr{}%
8071   \renewcommand*\noalign{}%
8072     \renewcommand{\and}{%
8073       \end{BlockClass}%
8074       \begin{BlockClass}{oneauthor}%
8075     }%
8076     \begin{BlockClass}{oneauthor}%
8077       \author%
8078     \end{BlockClass}%
8079     \end{BlockClass}%
8080     \begin{BlockClass}{titledate}%
8081       \date%
8082     \end{BlockClass}%
8083 }
```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
8084 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
8085 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
8086 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8087 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8088 \LWR@stoppars\@thanks\LWR@startpars
8089 }
```

```
8090 \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 `lwarf.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:** 8091 `\begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```

8092 \newcommand*{\AddSubtitlePublished}{%
8093   @ifpackageloaded{titling}{% yes titling package
8094     \newcommand{\@published}{}%
8095     \newcommand{\published}[1]{\gdef\@published{\##1}}%
8096     \renewcommand*{\maketitlehooka}{\printpublished}%
8097     \newcommand*{\printpublished}{%
8098       \warpprintonly{\begin{center}\unskip}%
8099       \begin{BlockClass}{published}%
8100         \warpprintonly{\large\itshape}%
8101         \@published%
8102       \end{BlockClass}%
8103       \warpprintonly{\end{center}}%
8104     }%
8105     \newcommand{\@subtitle}{}%
8106     \newcommand{\subtitle}[1]{\gdef\@subtitle{\##1}}%
8107     \renewcommand*{\maketitlehookb}{\printssubtitle}%
8108     \newcommand*{\printssubtitle}{%
8109       \warpprintonly{\begin{center}\unskip}%
8110       \begin{BlockClass}{subtitle}%
8111         \warpprintonly{\Large\itshape}%
8112         \@subtitle%
8113       \end{BlockClass}%
8114       \warpprintonly{\end{center}}%
8115     }%
8116 }% yes titling package
8117 {%
8118   \def\@published{}%
8119   \DeclareDocumentCommand{\published}{m}{\gdef\@published{\##1}}%
8120   \DeclareDocumentCommand{\printpublished}{}{}%
8121   \def\@subtitle{}%
8122   \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{\##1}}%
8123   \DeclareDocumentCommand{\printssubtitle}{}{}%

```

---

```

8124 }% no titling package
8125 }% \AddSubtitlePublished

8126 \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:** 8127 `\begin{warpHTML}`

`\abstractname` User-redefinable title for the abstract.

Also over-written by the `babel` package.

```

8128 \providecommand*\abstractname{Abstract}

```

Some classes allow an optional name, so it is allowed here.

Env `abstract`

```

8129 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
8130 {
8131     \LWR@forcenewpage
8132     \BlockClass{abstract}
8133     \BlockClassSingle{abstracttitle}{#1}
8134 }
8135 {
8136     \endBlockClass
8137 }

```

```

8138 \end{warpHTML}

```

## 71 Quote and verse

### 71.1 Attributions

`\attribution` {*<name>*}

For use with quote, quotation, verse:

Ex: "A quotation." `\attribution{\textsc{Author Name}\\\textsl{Book Title}}`

**for HTML & PRINT:** 8139 `\begin{warpall}`
  
8140 `\newcommand{\attribution}[1]{`
  
8141 `\begin{flushright}`

---

```

8142     \unskip
8143     #1
8144     \end{flushright}%
8145 }
8146 \end{warpall}
```

**for HTML output:**

```

8147 \begin{warpHTML}
8148 \newcommand{\LWR@HTML@attribution}[1]{%
8149   \LWR@stoppars%
8150   \begin{BlockClass}{attribution}
8151   #1
8152   \end{BlockClass}
8153   \LWR@startpars%
8154 }
8155 \LWR@formatted{attribution}
8156 \end{warpHTML}
```

## 71.2 Quotes, quotations

**for HTML output:**

```
8157 \begin{warpHTML}
```

Env quote

```

8158 \newenvironment*{\LWR@HTML@quote}{%
8159 {
8160   \LWR@forcenewpage
8161   \LWR@htmlblocktag{blockquote}
8162 }
8163 {\LWR@htmlblocktag{/blockquote}}
8164
8165 \LWR@formattedenv{quote}
```

Env quotation

```

8166 \newenvironment*{\LWR@HTML@quotation}{%
8167 {
8168   \LWR@forcenewpage
8169   \LWR@htmlblocktag{blockquote}
8170 }
8171 {\LWR@htmlblocktag{/blockquote}}
8172
8173 \LWR@formattedenv{quotation}

8174 \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 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.
- ⚠ **verse margin**

### 71.3.1 L<sup>A</sup>T<sub>E</sub>X core `verse` environment

**for HTML output:** 8175 `\begin{warpHTML}`

Env `verse`

```
8176 \newenvironment{LWR@HTML@verse}
8177     {\let\\newline% lwarp
8178      \list{}{\itemsep      \z@
8179          \itemindent    -1.5em%
8180          \listparindent\itemindent
8181          \rightmargin \leftmargin
8182          \advance\leftmargin 1.5em}%
8183      \item\relax}
8184      {\endlist}
8185
8186 \LWR@formattedenv{verse}

8187 \end{warpHTML}
```

**for HTML & PRINT:** 8188 `\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.

```
8189 \newlength{\HTMLvleftskip}
8190 \setlength{\HTMLvleftskip}{1em}
```

`Len \HTMLleftmargini` Sets `\leftmargini` inside a `verse` environment in HTML.

```
8191 \newlength{\HTMLleftmargini}
8192 \setlength{\HTMLleftmargini}{4.5em}

8193 \end{warpall}
```

## 72 Verbatim and tabbing

**for HTML & PRINT:** 8194 `\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.

```
8195 \newlength{\VerbatimHTMLWidth}
8196 \setlength{\VerbatimHTMLWidth}{4in}
8197 \end{warpall}
```

**for HTML output:** 8198 `\begin{warpHTML}`

`Bool LWR@verbtags` Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```
8199 \newbool{LWR@verbtags}
8200 \booltrue{LWR@verbtags}
```

`\verb` Patched to encapsulate the verbatim text inside span with a class of `texttt`.

```
8201 \LetLtxMacro{\LWR@orig@verb@egroup}{\verb@egroup}
8202
8203 \def\LWR@verb@egroup{endspan{%
8204     \LWR@orig@verb@egroup%
8205     \LWR@htmltag{/span}%
8206     \endgroup%
8207 }%
```

```
8208 \xpretocmd{\verb}
```

```

8209      {%
8210          \begingroup%
8211          \LWR@htmltag{span class=\textquotedbl{}texttt\textquotedbl{}}
8212          \let\verb@egroup\LWR@verb@egroup@endspan%
8213      }
8214  {}
8215  {\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.

```

8216 \newcommand*{\LWR@atbeginverbatim}[2][]
8217 {%

```

Stop generating HTML paragraph tags:

```
8218 \LWR@stoppars%
```

Avoid excessive space between lines:

```

8219 \setlength{\parskip}{0ex}%
8220 \setlength{\topsep}{0pt}%
8221 \setlength{\partopsep}{0pt}%

```

Inside the verbatim, temporarily prevent underfull \hbox warnings.

```
8222           \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.

```

8223 \ifbool{\LWR@verbtags}{%
8224     \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%}
8225         \ifthenelse{\equal{#1}{}{}}{\style=\textquotedbl#1\textquotedbl%}
8226     }%
8227     \par%
8228 }{%

```

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.

```
8229 \begingroup%
```

```

8230 \LWR@print@normalfont%
8231 \LWR@origttfamily%
8232 \LWR@print@scriptsize%

```

Since inside a <pre>, restore the original list processing:

```
8233 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
8234 \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:

```
8235 \LWR@select@print@hspace%
8236 }
```

\LWR@afterendverbatim Finishes enclosing a verbatim environment.

```
8237 \newcommand{\LWR@afterendverbatim}{%
8238 \endgroup%
8239 \par%
```

At the end of the environment, close the pre:

```
8240 \ifbool{\LWR@verbtags}{%
8241     \noindent\LWR@htmltag{/pre}\par% pre
8242 }{}}%
```

Resume regular paragraph handling:

```
8243 \LWR@startpars%
8244 }
```

\verbatiminput {<filename>}

Patch \verbatiminput to add HTML tags:

```
8245 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8246     \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{}
8247     \LWR@atbeginverbatim{Verbatim}%
8248     \LWR@print@verbatim@input{#1}{#2}%
8249     \LWR@afterendverbatim%
8250 }
8251
8252 \LWR@formatted{verbatim@input}
```

Env verbatim

```
8253 \AfterEndPreamble{
8254 \LWR@traceinfo{Patching verbatim.}
8255 \AtBeginEnvironment{verbatim}{%
8256     \ifnumcomp{\value{\LWR@lateximagedepth}}{0}{%
8257         {}%
8258         {}%
8259         \LWR@forcenewpage%
8260         \LWR@atbeginverbatim{Verbatim}%
8261     }%
8262 }}
```

---

```

8263 \AfterEndEnvironment{verbatim}{%
8264     \ifnumcomp{\value{LWR@lateximagedepth}}{0}%
8265         {}%
8266         {}%
8267             \LWR@afterendverbatim%
8268         {}%
8269     }%
8270 }

```

**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.

```

8271 \newcommand*{\LWR@HTML@tabbing}{%
8272     \LWR@forcenewpage%
8273     \LWR@atbeginverbatim{tabbing}%
8274     \let\enskip\LWR@origenskip%
8275     \let\quad\LWR@origquad%
8276     \let\qquad\LWR@origqquad%
8277     \let~\LWR@origtilde%
8278     \let\,,\LWR@origcomma%
8279     \let\thinspace\LWR@origthinspace%
8280     \let\negthinspace\LWR@orignegthinspace%
8281     \LWR@print@tabbing%
8282 }%
8283
8284 \newcommand*{\LWR@HTML@endtabbing}{%
8285     \LWR@print@endtabbing%
8286     \LWR@afterendverbatim%
8287 }%
8288
8289 \LWR@formatted{tabbing}%
8290 \LWR@formatted{endtabbing}%

```

```
8291 \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:** 8292 `\begin{warpHTML}`

```
\@begintheorem {⟨name⟩} {⟨number⟩}

8293 \renewcommand{\@begintheorem}[2]{%
8294 \LWR@forcenewpage

8295 \LWR@printpendingfootnotes% lwarp

8296 \BlockClass{theoremcontents}
8297 \trivlist
8298 \item[{\InlineClass{theoremlabel}{#1\ #2\ }}]\itshape
8299 }

\@opargbegintheorem {⟨name⟩} {⟨number⟩} {⟨oparg⟩}

 $\text{\LaTeX}$  defines this, but amsthm relaxes it, so it will not be defined if amsthm is loaded before lwarp.

8300 \ifundef{\@opargbegintheorem}{}{
8301   \renewcommand{\@opargbegintheorem}[3]{%
8302     \LWR@forcenewpage
8303     \BlockClass{theoremcontents}
8304     \trivlist
8305     \item[{\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }}]\itshape
8306   }
8307 }

\@endtheorem

8308 \renewcommand*{\@endtheorem}{%
8309 \endtrivlist

8310 \LWR@printpendingfootnotes% lwarp

8311 \endBlockClass% theoremcontents
8312 }

8313 \end{warpHTML}
```

## 74 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard `\TeX` 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 `\TeX` 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:** 8314 \begin{warpHTML}

\LWR@printcloselist May be locally redefined by `enumerate` or `description`.

8315 \newcommand\*{\LWR@printcloselist}{\LWR@printcloseitemize}

\LWR@printopenlist May be locally redefined by `enumerate` or `description`.

8316 \newcommand\*{\LWR@printopenlist}{%
8317 ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8318 }

\@mklab Removes PDF spacing.

8319 \AtBeginDocument{%
8320 \def\@mklab#1{%
8321 % \hfil %
8322 #1}%
8323 \let\makelabel\@mklab%
8324 }

\@donoparitem Modified for `HTML` output by replacing `TEX` boxes with plain text. Also removes PDF spacing.

8325 \def\@donoparitem{%
8326 \@noparitemfalse%
8327 % \global\setbox\@labels\hbox{\hskip -\leftmargin%
8328 % \unhbox\@labels%
8329 % \hskip \leftmargin}%
8330 }

```
8330 % \if@minipage\else
8331 %   \@tempskipa\lastskip
8332 %   \vskip -\lastskip
8333 %   \advance@\tempskipa\@outerparskip
8334 %   \advance@\tempskipa -\parskip
8335 %   \vskip\tempskipa
8336 % \fi
8337 }
```

\@item Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
8338 \def\LWR@HTML@item[#1]{%
8339 \LWR@traceinfo{@item}%
8340 \if@noperitem
8341   \donoperitem
8342 \else
8343 %   \if@inlabel
8344 %     \indent
8345 %     \par
8346 %   \fi
8347   \ifhmode
8348 %     \unskip\unskip
8349     \par
8350   \fi
8351   \if@newlist
8352     \if@nobreak
8353       \nbitem
8354     \else
8355       \addpenalty\beginparpenalty
8356       \addvspace\topsep
8357       \addvspace{-\parskip}%
8358     \fi
8359   \else
8360     \addpenalty\itempenalty
8361     \addvspace\itemsep
8362   \fi
8363   \global\inlabeltrue
8364 \fi
8365 % \everypar{%
8366 % \minipagefalse
8367 \global\newlistfalse

8368 % \if@inlabel
8369 %   \global\inlabelfalse

8370 %   {\setbox\z@\lastbox
8371 %     \ifvoid\z@
8372 %       \kern-\itemindent
8373 %     \fi}%
8374 %   \box@labels
8375 %   \penalty\z@
8376 % \fi
```

```

8377 %      \if@nobreak
8378 %          \nobreakfalse
8379 %          \clubpenalty \zM
8380 %      \else
8381 %          \clubpenalty \clubpenalty
8382 %          \everypar{}%
8383 %      \fi}%
8384 \if@noitemarg
8385   \noitemargfalse
8386   \if@nmbrlist
8387     \refstepcounter\listctr
8388   \fi
8389 \fi

8390   \makelabel{\#1} % extra space
8391 %   \sbox\tempboxa{\makelabel{\#1}%
8392 %   \global\setbox\labelbox\hbox{%
8393 %       \unhbox\labelbox
8394 %       \hskip \itemindent
8395 %       \hskip -\labelwidth
8396 %       \hskip -\labelsep
8397 %       \ifdim \wd\tempboxa >\labelwidth
8398 %           \box\tempboxa
8399 %       \else
8400 %           \hbox to\labelwidth {\unhbox\tempboxa}%
8401 %       \fi
8402 %       \hskip \labelsep}%
8403   \ignorespaces%
8404 }

\@nbitem

```

```

8405 \def\@nbitem{%
8406 %   \tempskipa\outerparskip
8407 %   \advance\tempskipa -\parskip
8408 %   \addvspace\tempskipa
8409 }

```

\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.

```

8410 \newcommand*\LWR@listitem{%
8411 \LWR@stoppars%
8412 \LWR@startnewdepth{listitem}%
8413 \LWR@htmltag{li}%

```

---

```

8414 \LWR@startpars%
8415 \LWR@origitem%
8416 }

```

\LWR@nulllistfills Nullifies various TeX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```

8417 \newcommand*{\LWR@nulllistfills}{%
8418 \renewcommand*{\hss}{ }%
8419 \renewcommand*{\llap}[1]{##1}%
8420 \renewcommand*{\rlap}[1]{##1}%
8421 \renewcommand*{\hfil}{ }%
8422 \renewcommand*{\hfilneg}{ }%
8423 \renewcommand*{\hfill}{ }%
8424 }

```

Env list {*<label>*} {*commands*}

```

8425 \newcommand*{\LWR@liststart}{%
8426 \LWR@traceinfo{\LWR@liststart}%
8427 \LWR@stoppars%
8428 \LWR@pushoneclose{list}%
8429 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8430 \LWR@startpars%
8431 \setlength{\topsep}{0pt}%
8432 \setlength{\partopsep}{0pt}%
8433 \setlength{\itemsep}{0pt}%
8434 \setlength{\parsep}{0pt}%
8435 \setlength{\leftmargin}{0pt}%
8436 \setlength{\rightmargin}{0pt}%
8437 \setlength{\listparindent}{0pt}%
8438 \setlength{\itemindent}{0pt}%
8439 \setlength{\labelsep}{1em}%
8440 \LWR@nulllistfills%
8441 }

8442 \newcommand*{\LWR@listend}{%
8443 \LWR@traceinfo{\LWR@listend}%
8444 \LWR@stoppars%
8445 \LWR@closeprevious{list}%
8446 \LWR@startpars%
8447 }

```

## 74.2 Itemize

\LWR@itemizeitem [*<label>*]

Handles \item inside an itemize or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

8448 \newcommand*\LWR@itemizeitem{%
8449 \LWR@stopars%
8450 \LWR@startnewdepth{listitem}%
8451 \LWR@htmltag{li}%
8452 \LWR@startpars%
8453 \LWR@origitem%
8454 }

Env itemize [<options>]

8455 \newcommand*\LWR@itemizestart{%
8456 \renewcommand*\LWR@printcloselist}{\LWR@printcloseitemize}
8457 \renewcommand*\LWR@printopenlist}{%
8458   ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8459 }
8460 \let\item\LWR@itemizeitem%
8461 \LWR@nulllistfills%
8462 }

```

### 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>]

```

8463 \newcommand*\LWR@enumeratestart{%
8464 \renewcommand*\LWR@printcloselist}{\LWR@printcloseitemize}
8465 \renewcommand*\LWR@printopenlist}{%
8466   ul style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8467 }
8468 \let\item\LWR@itemizeitem%
8469 \LWR@nulllistfills%
8470 }

```

### 74.4 Description

\LWR@descitem [<label>] Handles an \item inside a description.

```

8471 \newcommand*\LWR@descitem[1][]%
8472 {%
8473 \LWR@stopars%
8474 \LWR@setlatestname{#1}%
8475 \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.

```

8476 \begingroup%
8477 \let\LWR@orig@desc\makelabel\makelabel

```

```

8478 \renewcommand*{\makelabel}[1]{%
8479   \LWR@htmltag{dt}%
8480   \LWR@orig@desc@makelabel{#1}%
8481   \LWR@htmltag{/dt}%
8482 }
8483 \LWR@select@html@nohspace%
8484 \LWR@origitem[#1]%
8485 \endgroup%
8486 \LWR@orignewline%
8487 \LWR@htmltag{dd}%
8488 \LWR@startpars%
8489 }
```

Env `description` [*<options>*]

Footnotes are modified to correctly parse optional arguments.

```

8490 \newcommand*{\LWR@descriptionstart}{%
8491   \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}%
8492   \renewcommand*{\LWR@printopenlist}{\LWR@nulllistfills}%
8493   \let\item\LWR@descitem%
8494 }
```

Footnotes are redefined to process optional arguments inside the `description` label. A `\footnote` is dropped, as it is in print mode. Using the optional arguments does not work in print mode, but for some reason they must be accepted as done here to work correctly even without the optional arguments.

```

8495   \renewcommand{\footnote}[2][]{%
8496     \ifblank{##1}{%
8497       {%
8498         \stepcounter{\mpfn}%
8499         \protected@xdef{\thefnmark{\thempfn}}{%
8500           \footnotemark\footnotetext
8501         }%
8502       {%
8503         \begingroup%
8504           \csname c@\@mpfn\endcsname ##1\relax
8505           \unrestored@protected@xdef{\thefnmark{\thempfn}}{%
8506             \endgroup
8507             \footnotemark\footnotetext
8508           }%
8509       }%
8510     }%
8511     \renewcommand{\footnotemark}[1][]{%
8512       \ifblank{##1}{%
8513         {%
8514           \stepcounter{footnote}%
8515           \protected@xdef{\thefnmark{\thefootnote}}{%
8516             \footnotemark
8517           }%
8518         {%
8519           \begingroup%
8520             \c@footnote ##1\relax%
8521             \unrestored@protected@xdef{\thefnmark{\thefootnote}}{%
```

---

```

8522           \endgroup%
8523           \@footnotemark%
8524       }%
8525   }%
8526 }
```

## 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.

```

8527 \newcommand*{\LWR@patchlists}{%
8528     \LetLtxMacro{\item}{\LWR@listitem}%
8529     \LetLtxMacro{\@item}{\LWR@HTML@item}%
8530     \renewcommand*{\@trivlist}{%
8531         \LWR@traceinfo{@trivlist start}%
8532         \LWR@liststart%
8533         \LWR@orig@trivlist%
8534         \LWR@traceinfo{@trivlist done}%
8535     }%
8536     \renewcommand*{\trivlist}{%
8537         \LWR@traceinfo{trivlist}%
8538         \LWR@origtrivlist%
8539     }%
8540     \renewcommand*{\endtrivlist}{%
8541         \LWR@traceinfo{endtrivlist start}%
8542         \LWR@origendtrivlist\LWR@listend%
8543         \LWR@traceinfo{endtrivlist done}%
8544     }%
8545     \renewcommand*{\itemize}{%
8546         \LWR@itemizestart\LWR@origitemize%
8547     }%
8548     \renewcommand*{\enumerate}{%
8549         \LWR@enumeratestart\LWR@origenumerate%
8550     }%
8551     \renewcommand*{\description}{%
8552         \LWR@descriptionstart\LWR@origdescription%
8553     }%
8554 }
```

\LWR@restoreoriglists Restores the original trivlist environment.

```

8555 \newcommand*{\LWR@restoreoriglists}{%
8556     \LWR@traceinfo{\LWR@restoreoriglists}%
8557     \LetLtxMacro{\item}{\LWR@origitem}%
8558     \LetLtxMacro{\@item}{\LWR@orig@item}%
8559     \let{@trivlist}{\LWR@orig@trivlist}%
8560     \let{trivlist}{\LWR@origtrivlist}%
```

```

8561   \let\endtrivlist\LWR@origendtrivlist%
8562   \LetLtxMacro\itemize\LWR@origitemize%
8563   \LetLtxMacro\enditemize\LWR@endorigitemize%
8564   \LetLtxMacro\enumerate\LWR@origenumerate%
8565   \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8566   \LetLtxMacro\description\LWR@origdescription%
8567   \LetLtxMacro\enddescription\LWR@endorigdescription%
8568   \let\@mklab\LWR@orig@mklab%
8569   \let\makelabel\LWR@origmakelabel%
8570   \let\@donoparitem\LWR@orig@donoparitem%
8571   \let\@nbitem\LWR@orig@nbitem%
8572 }

8573 \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@subsome}{[2]{%
  ...
  \otherenvironmentname [<args>] {<args>} % for example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somes}{%
  \StartDefiningTabulars
  \LWR@HTML@subsome
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsome}{%
  ...
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somes}
```

**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:****@ 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**

- `\newcolumntype` is ignored; unknown column types are set to l.

**Rules:**

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.

**vertical rules**

- 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:

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

**longtable headings**

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

- For S columns (from the `siunitx` 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 \\}
```

- 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 `\warpprint` environment.

**for HTML output:** 8574 `\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.

```
8575 \LetLtxMacro{\hdashline}{\hline}
8576 \LetLtxMacro{\cdashline}{\cline}
8577 \LetLtxMacro{\firstdashline}{\hline}
8578 \LetLtxMacro{\lastdashline}{\hline}
```

## 75.3 Token lookahead

Used by \LWR@futurenonospacelet to look at the next token.

\LWR@mynexttoken

```
8579 \newcommand{\LWR@mynexttoken}{\relax}
```

\futurelet copies the next token then executes a function to analyze it.

\LWR@futurenonospacelet does the same, but ignores intervening white space

Based on the booktabs style:

\LWR@futurenonospacelet

```
8580 \def{\LWR@futurenonospacelet}{\def{\LWR@cs{#1}}%
8581   \afterassignment{\LWR@fnslone\let\nexttoken= }%
8582 }
8583 \def{\LWR@fnslone}{\expandafter{\futurelet{\LWR@cs{\LWR@fnsltwo}}%
8584 %
8585 \def{\LWR@fnsltwo}{%
8586   \expandafter{\ifx{\LWR@cs{@spoken}\let\next=\LWR@fnslthree}%
8587     \else\let\next=\nexttoken\fi\next}%
8588 }
8589 \def{\LWR@fnslthree}{\afterassignment{\LWR@fnslone\let\next= }%
```

\LWR@getmynexttoken Looks ahead and copies the next token into \LWR@mynexttoken.

```
8590 \newcommand*{\LWR@getmynexttoken}{%
8591   \LWR@traceinfo{\LWR@getmynexttoken}%
8592 % nothing must follow this next line
8593   \LWR@futurenonospacelet{\LWR@mynexttoken\LWR@tabledatacolumntag}%
8594 }
```

## 75.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, etoolbox's \defcounter and l warp's new \defaddtocounter are used.

Bool LWR@startedrow True if should print a row tag before this column.

```
8595 \newbool{LWR@startedrow}
8596 \boolefalse{LWR@startedrow}
```

Bool LWR@tabularcelladded True if have added a data cell for this position.

```
8597 \newbool{LWR@tabularcelladded}
8598 \boolefalse{LWR@tabularcelladded}
```

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

```
8599 \newcounter{LWR@hlines}
```

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

```
8600 \newcounter{LWR@hdashedlines}
```

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

```
8601 \newbool{LWR@doingtbrule}
8602 \boolefalse{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.

```
8603 \newbool{LWR@doingcmidrule}
8604 \boolefalse{LWR@doingcmidrule}
```

Bool LWR@tableparcell True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8605 \newbool{LWR@tableparcell}
```

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
8606 \newbool{LWR@skippingmrowcell}
```

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumn cell, and thus there is no data tag to close, and do not print @ and ! columns.

```
8607 \newbool{LWR@skippingmcolrowcell}
```

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

```
8608 \newbool{LWR@usedmultirow}
```

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

```
8609 \newbool{LWR@foundmrowcell}
```

Bool LWR@skipatbang True if just finished a `\multicolumn` so should not create the trailing @ or ! column table data cells.

```
8610 \newbool{LWR@skipatbang}
```

Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.

```
8611 \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.

```
8612 \newbool{LWR@intabularmetadata}
```

```
8613 \boolfalse{LWR@intabularmetadata}
```

Bool LWR@exittingtabular When `\end` is found, turns off the next opening data tag.

```
8614 \newbool{LWR@exittingtabular}
```

Bool LWR@tabularmutemods Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate `\bottomrules`.

```
8615 \newbool{LWR@tabularmutemods}
```

Bool LWR@validtablecol True if found a valid table column type.

```
8616 \newbool{LWR@validtablecol}
```

Bool LWR@opttablecol True if found a table column optional argument.

```
8617 \newbool{LWR@opttablecol}
```

Used to add a style to a table data cell:

```
8618 \newbool{LWR@tdhavecellstyle}
```

Ctr LWR@tabularDepth Tracks whether & is being used inside a tabular.

```
8619 \newcounter{LWR@tabulardepth}
```

```
8620 \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.

```
8621 \newcounter{LWR@tabularpardepth}
```

```
8622 \setcounter{LWR@tabularpardepth}{0}
```

---

```

8623 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8624 \newcommand*{\LWR@pposition}{}%
8625 \newcommand*{\LWR@pleft}{}%
8626 \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.

```

8627 \providecommand*{\LWR@strresult}{}%
8628 \providecommand*{\LWR@strresulttwo}{}%

```

`\LWR@origcolspec` Holds the original column specs given to `tabular`.

```
8629 \newcommand*{\LWR@origcolspec}{}%
```

`Ctr LWR@tablecolspecwidth` Holds the number of tokens in the table columns specification.

This includes one for each @, !, <, > column, and also one for each of the parameters of p, e, !, <, > 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.)

```
8630 \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.

```
8631 \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.

```
8632 \newcounter{LWR@tableLaTeXcolindex}
```

`Ctr LWR@tabletotalLaTeXcols` While parsing a table column specification, begins at 0 and increments by 1 per L<sup>A</sup>T<sub>E</sub>X table column. Eventually holds the final number of L<sup>A</sup>T<sub>E</sub>X table columns in each row, not counting @ and ! columns. (In HTML, @ and ! cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
8633 \newcounter{LWR@tabletotalLaTeXcols}
```

`Ctr LWR@tabletotalLaTeXcolsnext` Holds the next L<sup>A</sup>T<sub>E</sub>X table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
8634 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

---

LWR@colatspec	A data array of specifications for @ columns. The leftmost's index is <code>leftedge</code> , the others are counter values. See section 42.
LWR@colbangspec	A data array of specifications for ! columns. The leftmost's index is <code>leftedge</code> , 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.
Ctr LWR@cellcolordepth	Counts how many cell color <div>s were added to the current tabular data cell.

8635 \newcounter{LWR@cellcolordepth}

#### 75.4.1 Multicolumn variables

8636 \newcounter{LWR@tablemulticolwidth}

Indexes into the multicolumn specification:

8637 \newcounter{LWR@tablemulticolspos}

Remembers multicolumn vertical rules if found in the column spec.

8638 \newcounter{LWR@mcolvertbarsl}  
 8639 \newcounter{LWR@mcolvertbarsr}  
 8640 \newcounter{LWR@mcolvertbarsldash}  
 8641 \newcounter{LWR@mcolvertbarsrdash}  
 8642 \newbool{LWR@mcolvertbaronleft}

#### 75.4.2 Longtable variables

Bool LWR@starredlongtable Per the `caption` package, step the counter if `longtable*`.

8643 \newbool{LWR@starredlongtable}  
 8644 \boolefalse{LWR@starredlongtable}

#### 75.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the `LWR@midrules` and `LWR@trim<l/r>rules` data arrays.

8645 \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>

\LWR@instertatbangcols

```
8646 \newcommand*\LWR@insertatbangcols}{%
8647     \ifbool{\LWR@skipatbang}{%
8648     }{%
8649     }{%
8650         \LWR@printatbang{at}{\arabic{\LWR@tableLaTeXcolindex}}{%
8651         \LWR@printatbang{bang}{\arabic{\LWR@tableLaTeXcolindex}}{%
8652     }{%
8653 }}
```

\LWR@closetabledatcell If LWR@skippingmrowcell or LWR@skippingmcolrowcell then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```
8654 \newcommand*{\LWR@closetabledatacell}{%
8655     \booltrue{\LWR@intabularmetadata}%
8656     \ifbool{\LWR@existingtabular}{%
8657         {%
8658             \LWR@stoppars%
8659         }%
8660         {%
8661             \ifboolexpr{\bool{\LWR@skippingmrowcell}}{\bool{\LWR@skippingmcolrowcell}}{%
8662                 {%
8663                     \LWR@stoppars%
```

If not skipping a `\multicolumn{row}` cell, insert the `@` and `!` columns after this non-existent column.

```
8664          \ifbooleq{\LWR@skippingmcolrowcell}{%  
8665              {}%  
8666              {\LWR@insertatbangcols}{%  
8667          }%  
8668          {%
```

Insert any < then any @ and ! column contents, unless muted for the \bottomrule or a \multicolumn:

```

8669          \unskip%
870           \ifboolexpr{%
871               bool{LWR@tabularmutemods} or
872               bool{LWR@skipatbang} or
873               bool{LWR@emptyatbang}
874           }%
875           {}%
876           {}%
877           \LWR@getexpparray{\LWR@colaferspec}%
878           {\arabic{\LWR@tableLaTeXcolindex}}%
879       }%

```

Close paragraphs:

```
8680          \LWR@stoppars%
8681          \boolfalse{\LWR@tableparcell}%
```

Close the table data cell.

Close any color <div>s.

```
8682          \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{%
8683              \LWR@htmllag{/div}\LWR@orignewline%
8684              \defaddtocounter{\LWR@cellcolordepth}{-1}%
8685          }%
```

Skip the @ and ! cells if are closing a multicolumn cell.

```
8686          \leavevmode\unskip\LWR@htmllag{/td}\LWR@orignewline%
8687          \global\booltrue{\LWR@tabularcelladded}%
8688          \LWR@insertatbangcols%
8689          }% not skipping mrowcell
8690      }% not exiting tabular
8691      \boolfalse{\LWR@skippingmrowcell}%
8692      \boolfalse{\LWR@skippingmcolrowcell}%
8693      \boolfalse{\LWR@skipatbang}%
```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```
8694      \def\LWR@cellHTMLcolor{}%
8695      \def\LWR@columnHTMLcolor{}%
8696      \defcounter{\LWR@cellcolordepth}{0}%
8697 }
```

When not used inside a `tabular`, & performs its original function as recorded here ( with catcode 4 ).

```
8698 \let\LWR@origampmacro&
```

```
8699 \end{warpHTML}
```

### 75.5.1 Handling &

**for HTML output:** 8700 `\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.

```
8701 \newcommand*{\LWR@tabularampersand}{%
8702     \LWR@traceinfo{\LWR@tabularampersand}%
8703     \ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}%
8704     {%
```

If not skipping a multirow cell, close the current data cell.

```
8705      \unskip%
8706      \LWR@closetabledatcell%
```

Move to the next column.

```
8707      \defaddtocounter{LWR@tableTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8708      \global\boolfalse{LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
8709      \LWR@getmynexttoken%
8710      }%
```

If not inside a tabular, performs the original action:

```
8711      {%
8712      \LWR@origampmacro%
8713      }%
8714 }
```

& 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.

### 75.5.2 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.

```
8715 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8716      \ifboolexpr{%
8717          not bool {LWR@exittingtabular} or%
8718          bool{LWR@doingtbrule} or%
8719          bool{LWR@doingscmidrule} or%
8720          test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8721          test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
8722          bool{LWR@startedrow}%
8723      }{%
```

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:

```
8724     \ifbool{LWR@exittingtabular}{%
8725         \booltrue{LWR@tabularmutemods}%
8726     }{%
8727         \boolfalse{LWR@tabularmutemods}%
8728     }%
```

Locally reenable the table data tags until finished with the final row:

```
8729     \boolfalse{LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8730     \whileboolexpr{%
8731         test {
8732             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{%
8733                 {\value{LWR@tabletotalLaTeXcols}}}
8734         } or %
8735         (%
8736             \bool{LWR@intabularmetadata} and%
8737             not \bool{LWR@tabularcelladded} and%
8738             test {
8739                 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{%
8740                     {\value{LWR@tabletotalLaTeXcols}}}
8741             }%
8742         )%
8743     }%
8744     {%
8745         \LWR@tabledatasinglecolumntag%
```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```
8746     \LWR@closetabledatacell%
8747     \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8748     \global\boolfalse{LWR@tabularcelladded}%
8749     \booltrue{LWR@emptyatbang}%
```

Starts the next cell:

```
8750     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{%
8751         {\value{LWR@tabletotalLaTeXcols}}}%
8752         {\LWR@getmynexttoken}%
8753     {}%
8754 }%
```

Reenable the original `LWR@exittingtabular` to close the entire table:

```
8755     \ifbool{LWR@tabularmutemods}{%
```

```

8756      \booltrue{LWR@exittingtabular}%
8757      }{%
8758      \boolfalse{LWR@exittingtabular}%
8759      }%
8760      \boolfalse{LWR@tabulararmutemods}%

8761      \boolfalse{LWR@emptyatbang}%
8762      }{} ifboolexpr
8763 }

```

## 75.6 Handling \\

Inside tabular, \\ is redefined to \LWR@tabularendofline

Throws away options \\[dim] or \\\*

\LWR@tabularendofline

```
8764 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```

8765      \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8766          {\value{LWR@tabletotalLaTeXcols}}%
8767          {\LWR@tabularfinishrow}%
8768          {\LWR@closetabledatacell}%
8769          \LWR@htmltag{/tr}\LWR@orignewline%

```

xcolor row color support:

```
8770     @rowc@lors%
```

No longer inside a data cell:

```
8771     \booltrue{LWR@intabularmetadata}%
```

Not yet started a table row:

```
8772     \boolfalse{LWR@startedrow}%
```

Additional setup:

```

8773     \defcounter{LWR@hlines}{0}%
8774     \defcounter{LWR@hdashedlines}{0}%
8775     \boolfalse{LWR@doingtbrule}%
8776     \boolfalse{LWR@doingcmidrule}%
8777     \LWR@clearmidrules%

8778     \def\LWR@rowHTMLcolor{}%

```

Start at first column:

```
8779 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8780 \global\boolfalse{LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8781 \LWR@stoppars%
8782 \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8783 \LWR@getmynexttoken%
8784 }
```

## 75.7 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}.

```
8785 \newcommand*{\LWR@columnspeclookahead}[1]{%
8786   \setcounter{LWR@tempcountone}{\value{LWR@tablecolspecindex}}%
8787   \addtocounter{LWR@tempcountone}{#1}%
8788   \fullexpandarg%
8789   \StrChar{\LWR@origcolspec}{\arabic{LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in \LWR@strresulttwo:

```
8790 \exploregroups%
8791 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8792 \noexploregroups%
8793 }
```

## 75.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8794 \newcommand*{\LWR@colparameter}{}%
```

```
\LWR@parseatcolumn Handles @\{text\} columns.
```

```
8795 \newcommand*{\LWR@parseatcolumn}{}%
```

Move to the next token after the '@':

```
8796 \LWR@traceinfo{at column}%
8797 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8798 \LWR@traceinfo{about to read the next token:}%
8799 \expandarg%
8800 \StrChar{\LWR@origcols}%
8801 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8802 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8803 \LWR@traceinfo{have now read the next token}%
8804 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8805 {%
8806   \LWR@traceinfo{at the left edge}%
8807   \LWR@setexparray{\LWR@colatspec}%
8808   {\leftedge}%
8809   {\expandafter\@firstofone\LWR@colparameter}%
8810   \LWR@traceinfo{at the left edge: \%}
8811   \LWR@getexparray{\LWR@colatspec}{\leftedge}%
8812 }%
8813 {%
8814   \LWR@traceinfo{not at the left edge}%
8815   \LWR@setexparray{\LWR@colatspec}%
8816   {\arabic{\LWR@tabletotalLaTeXcols}}%
8817   {\expandafter\@firstofone\LWR@colparameter}%
8818   \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}}%
8819   : \% space
8820   \LWR@getexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
8821 }%
8822 \let\LWR@colparameter\relax%
8823 \booltrue{\LWR@validtablecol}%
8824 }
```

\LWR@parsebangcolumn Handles !{text} columns.

```
8825 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```
8826 \LWR@traceinfo{bang column}%
8827 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
8828 \LWR@traceinfo{about to read the next token:}%
8829 \expandarg%
8830 \StrChar{\LWR@origcols}%
8831 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8832 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8833   \LWR@traceinfo{have now read the next token}%
8834   \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8835   {% left edge of the table:
8836     \LWR@traceinfo{at the left edge}%
8837     \LWR@setexpparray{\LWR@colbangspec}%
8838     {\leftedge}%
8839     {\expandafter\@firstofone\LWR@colparameter}%
8840   }%
8841   {% not at the left edge:
8842     \LWR@traceinfo{not at the left edge}%
8843     \LWR@setexpparray{\LWR@colbangspec}%
8844     {\arabic{\LWR@tabletotalLaTeXcols}}%
8845     {\expandafter\@firstofone\LWR@colparameter}%
8846     \LWR@traceinfo{bang \arabic{\LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8847   }%
8848   \let\LWR@colparameter\relax%
8849   \booltrue{\LWR@validtablecol}%
8850 }
```

\LWR@parsebeforecolumn Handles >{text} columns.

```
8851 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the '>':

```
8852 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

8853 \expandarg%
8854 \StrChar{\LWR@origcolspec}%
8855 {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8856 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

8857 \LWR@setexpparray{\LWR@colbeforespec}%
8858 {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
8859 {\expandafter\@firstofone\LWR@colparameter}%
8860 \let\LWR@colparameter\relax%
8861 \booltrue{\LWR@validtablecol}%
8862 }
```

\LWR@parseaftercolumn Handles <{text} columns.

```
8863 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the '<':

```
8864 \defaddtocounter{\LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```
8865     \expandarg%
8866     \StrChar{\LWR@origcolspec}%
8867         {\arabic{\LWR@tablecolsindex}}[\LWR@colparameter]%
8868     \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
8869     \LWR@setexpparray{\LWR@colatterspec}%
8870         {\arabic{\LWR@tabletotalLaTeXcols}}%
8871         {\expandafter\@firstofone\LWR@colparameter}%
8872     \let\LWR@colparameter\relax%
8873     \booltrue{\LWR@validtablecol}%
8874 }
```

\LWR@parsebarcolumn Handles vertical rules.

```
8875 \newcommand*{\LWR@parsebarcolumn}{%
8876     \LWR@traceinfo{\LWR@parsebarcolumn}%
}
```

Remember the bar at this position:

```
8877     \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
8878     {% left edge of the table:
8879         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
8880         \ifdefstring{\LWR@tempone}{tvertbarl}%
8881             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8882             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarl}}%
8883     }%
8884     {% not at the left edge:
8885         \edef\LWR@tempone{%
8886             \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
8887         \ifdefstring{\LWR@tempone}{tvertbarr}%
8888             {%
8889                 \LWR@setexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
8890             {%
8891                 \LWR@setexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}}%
8892         }%
8893         {%
8894             \LWR@setexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}%
8895         }%
8896     }%
8897 }%
8898 \booltrue{\LWR@validtablecol}%
8899 }
```

\LWR@parsecoloncolumn Handles vertical rules.

```
8900 \newcommand*{\LWR@parsecoloncolumn}{%
8901     \LWR@traceinfo{\LWR@parsecoloncolumn}%
}
```

Remember the bar at this position:

```

8902     \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8903     {% left edge of the table:
8904         \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{leftedge}}%
8905         \ifdefstring{\LWR@tempone}{tvertbarldash}%
8906             {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8907             {\LWR@setexpparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
8908         }%
8909     {% not at the left edge:
8910         \edef\LWR@tempone{%
8911             \LWR@getexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8912         }%
8913         \ifdefstring{\LWR@tempone}{tvertbarrdash}%
8914             {\LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
8915             {\LWR@setexpparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
8916         }%
8917     }%
8918     \booltrue{LWR@validtablecol}%
8920 }
```

\LWR@parsesemicoloncolumn      Handles vertical rules.

```
8921 \newcommand*{\LWR@parsesemicoloncolumn}{%
```

Treat ; as a : column:

```
8922 \LWR@parsecoloncolumn%
```

Skip the following width token:

```

8923 \defaddtocounter{LWR@tablecolsindex}{1}%
8924 }
```

## 75.9 Parsing ‘l’, ‘c’, or ‘r’ columns

\LWR@parsonormalcolumn {<thiscolumn>}

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

```

8925 \newcommand*{\LWR@parsonormalcolumn}[1]{%
8926     \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
8927     \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%
8928     \LWR@setexpparray{LWR@tablecols}{\arabic{LWR@tabletotalLaTeXcols}}{\#1}%
8929     \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
8930     \LWR@setexpparray{LWR@colatsspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
8931     \LWR@setexpparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
```

---

```

8932   \LWR@setexparray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8933   \LWR@setexparray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8934   \LWR@setexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8935   \booltrue{\LWR@validtablecol}%
8936 }

```

## 75.10 Parsing ‘p’, ‘m’, or ‘b’ columns

\LWR@parsepcolumn {*thiscolumn*} The width will be ignored.

```
8937 \newcommand*{\LWR@parsepcolumn}[1]{%
```

Converts to the given column type:

```
8938 \LWR@parsenormalcolumn{#1}%
```

Skips the following width token:

```

8939 \defaddtocounter{\LWR@tablecolspectindex}{1}%
8940 }
```

## 75.11 Parsing ‘w’ columns

\LWR@parsewcolumn The width will be ignored.

```
8941 \newcommand*{\LWR@parsewcolumn}{%
```

```

8942 \LWR@columnspeckookahead{1}%
8943 \expandafter\parsonormalcolumn\expandafter{\LWR@strresulttwo}%
```

Skips the following width and alignment tokens:

```

8944 \defaddtocounter{\LWR@tablecolspectindex}{2}%
8945 }
```

## 75.12 Parsing ‘\*’ columns

\LWR@parsestarcolumn Star columns should already have been expanded, so this should never be used.

```

8946 \newcommand*{\LWR@parsestarcolumn}{%
8947 \defaddtocounter{\LWR@tablecolspectindex}{2}%
8948 }
```

### 75.13 Parsing ‘D’ columns

From the `dcolumn` package.

`\LWR@parseDcolumn {<thiscolumn>}` The three parameters will be ignored.

```
8949 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
8950 \LWR@parseNormalColumn{#1}%
```

Skips the following three parameters.

```
8951 \def\addtocounter{\LWR@tableColSpecIndex}{3}%
8952 }
```

### 75.14 Expanding the star column specifications

`Ctr \LWR@starCount` Internal count for duplicating star columns.

```
8953 \newcount\LWR@starCount
```

`\LWR@expColSpec` Temporary storage used to build the expanded column specifier.

```
8954 \newcommand*{\LWR@expColSpec}{}%
```

`Ctr \LWR@splitStarIndex` Indexes into the column specifiers.

```
8955 \newcounter{\LWR@splitStarIndex}
```

`Ctr \LWR@splitStarCopies` Number of copies.

```
8956 \newcounter{\LWR@splitStarCopies}
```

`\LWR@splitStarContents` Contents to duplicate.

```
8957 \newcommand*{\LWR@splitStarContents}{}%
```

`\expandColSpec` Expands `\LWR@origColSpec` for star columns.

```
8958 \newcommand*{\expandColSpec}{}%
```

Find the position of any star token.

```
8959 \StrPosition{\LWR@origColSpec}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
8960      \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}} }%
8961      {%
```

Begin with any characters to the left of the star.

```
8962      \setcounter{\LWR@splitstarindex}{\LWR@tempone}%
8963      \addtocounter{\LWR@splitstarindex}{-1}%
8964      \StrLeft{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\LWR@expcolspec]%
```

Move past the star to remember its number of copies.

```
8965      \addtocounter{\LWR@splitstarindex}{2}%
8966      \StrChar{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\LWR@tempone]%
8967      \setcounter{\LWR@splitstarcopies}{\expandafter\@firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
8968      \addtocounter{\LWR@splitstarindex}{1}%
8969      \StrChar{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

For each copy, append the contents.

```
8970      \ifnumgreater{\value{\LWR@splitstarcopies}}{0}%
8971      {%
8972          \LWR@starcount=\value{\LWR@splitstarcopies}%
8973          \loop
8974              \appto{\LWR@expcolspec}{%
```

(Remove the enclosing braces.)

```
8975                  \expandafter\@firstofone\LWR@splitstarcontents%
8976              }%
8977              \advance \LWR@starcount -1
8978              \ifnum \LWR@starcount>0 \repeat
8979 }{ }%
```

Remove any token to the left, and append the rightmost remaining tokens.

```
8980      \StrGobbleLeft{\LWR@origcolspec}{\value{\LWR@splitstarindex}}[\colspectremainder]%
8981      \appto{\LWR@expcolspec}{\colspectremainder}%
```

Remember the final result.

```
8982      \edef{\LWR@origcolspec}{\LWR@expcolspec}%
```

See if more stars exist.

```
8983      \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
8984  }%
8985 }
```

Table 13: Tabular baseline

1	p	m	b	r
			bot	
			mid	bot
1	par	mid	bot	r
	par	mid		
		par		

### 75.15 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 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.

```
\LWR@parsetablecols {<colspecs>}
```

Scans the column specification left to right.

Builds \LWR@tablecolspec with the final specification, one L<sup>A</sup>T<sub>E</sub>X column per entry. The final number of L<sup>A</sup>T<sub>E</sub>X 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.

```
8986 \newcommand*{\LWR@parsetablecols}[1]{%
8987   \LWR@traceinfo{\LWR@parsetablecols}{%
```

Remember the original supplied column spec:

```
8988 \renewcommand*{\LWR@origcolspec}{#1}{%
```

Remove spaces:

```
8989 \expandarg%
8990 \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]{%
```

Expand any star columns:

```
8991 \expandcolspec{
```

The parsed column spec data array, \LWR@tablecolspec, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

Table 14: Tabular HTML column conversions

- 
- 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.
- P, M, B:** Horizontally-centered versions.
- S:** Converted to 'r'. Ignores optional argument. From the siunitx package.
- D:** Converted to 'c'. From the dcolumn package.
- @, !, >, <:** One each, in that order.
- |:** Vertical rule.
- Unknown:** Converted to 'l'.
- \newcolumn:** Currently treated as unknown.
-

```

8992 \defcounter{LWR@tabletotalLaTeXcols}{0}%
8993 \defcounter{LWR@tabletotalLaTeXcolsnext}{1}%
8994 \LWR@setexparray{\LWR@colatstype}{leftedge}{ }%
8995 \LWR@setexparray{\LWR@colatstype}{1}{ }%
8996 \LWR@setexparray{\LWR@colatstype}{2}{ }%
8997 \LWR@setexparray{\LWR@colatstype}{3}{ }%
8998 \LWR@setexparray{\LWR@colbangspec}{leftedge}{ }%
8999 \LWR@setexparray{\LWR@colbangspec}{1}{ }%
9000 \LWR@setexparray{\LWR@colbangspec}{2}{ }%
9001 \LWR@setexparray{\LWR@colbangspec}{3}{ }%
9002 \LWR@setexparray{\LWR@colbeforespec}{1}{ }%
9003 \LWR@setexparray{\LWR@colbeforespec}{2}{ }%
9004 \LWR@setexparray{\LWR@colbeforespec}{3}{ }%
9005 \LWR@setexparray{\LWR@colafterspec}{1}{ }%
9006 \LWR@setexparray{\LWR@colafterspec}{2}{ }%
9007 \LWR@setexparray{\LWR@colafterspec}{3}{ }%
9008 \LWR@setexparray{\LWR@colbarspec}{leftedge}{ }%
9009 \LWR@setexparray{\LWR@colbarspec}{1}{ }%
9010 \LWR@setexparray{\LWR@colbarspec}{2}{ }%
9011 \LWR@setexparray{\LWR@colbarspec}{3}{ }

```

Starting at the first column specification:

```
9012 \defcounter{LWR@tablecolsindex}{1}%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

9013 \expandarg%
9014 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9015 \fullexpandarg%
9016 \LWR@traceinfo{original column spec length: \LWR@strresult}%
9017 \defcounter{LWR@tablecolswidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```
9018 \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```

9019 \whileboolexpr{%
9020   not test{%
9021     \ifnumcomp{\value{LWR@tablecolsindex}}{>}{%
9022       {\value{LWR@tablecolswidth}}%
9023     }%
9024   }%
9025 {%

```

Place the next single-character column type into `\LWR@strresult`:

```

9026 \expandarg%
9027 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolsindex}}[\LWR@strresult]%
9028 \LWR@traceinfo{position \arabic{LWR@tablecolsindex}: \LWR@strresult}%
9029 \fullexpandarg%

```

Not yet found a valid column type:

```
9030 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `siunitx S` column:

```
9031 \IfStrEq{\LWR@strresult}{[]}{\booltrue{LWR@opttablecol}}{}%
```

Throw away anything found inside the optional argument:

```
9032 \ifbool{LWR@opttablecol}%
9033 {}% inside an optional argument
9034 {}% not an optional tabular argument
```

Not inside an optional argument, so consider the column type:

```
9035 \IfStrEq{\LWR@strresult}{l}{\LWR@parsenormalcolumn{l}}{}%
9036 \IfStrEq{\LWR@strresult}{c}{\LWR@parsenormalcolumn{c}}{}%
9037 \IfStrEq{\LWR@strresult}{r}{\LWR@parsenormalcolumn{r}}{}%
9038 \IfStrEq{\LWR@strresult}{L}{\LWR@parsenormalcolumn{l}}{}%
9039 \IfStrEq{\LWR@strresult}{C}{\LWR@parsenormalcolumn{c}}{}%
9040 \IfStrEq{\LWR@strresult}{R}{\LWR@parsenormalcolumn{r}}{}%
9041 \IfStrEq{\LWR@strresult}{J}{\LWR@parsenormalcolumn{l}}{}%

9042 \IfStrEq{\LWR@strresult}{S}{\LWR@parsenormalcolumn{c}}{}%
9043 \IfStrEq{\LWR@strresult}{s}{\LWR@parsenormalcolumn{c}}{}%

9044 \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{}%
9045 \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{}%
9046 \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{}%
9047 \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{}%
9048 \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{}%
9049 \IfStrEq{\LWR@strresult}{::}{\LWR@parsecoloncolumn}{}%
9050 \IfStrEq{\LWR@strresult}{;}{\LWR@parsesemicoloncolumn}{}%

9051 \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{}%
9052 \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{}%
9053 \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{}%

9054 \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{}%
9055 \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{}%
```

A star column:

```
9056 \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{}%
```

From the `dcolumn` package:

```
9057 \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{}%
```

From the `tabularx` package. X column has no parameter, but will be given paragraph tags.

```
9058 \IfStrEq{\LWR@strresult}{X}{\LWR@parsenormalcolumn{X}}{}%
```

Many people define centered versions “P”, “M”, and “B”:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

```
9059 \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{}%
9060 \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{}%
9061 \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{}%
```

If this column was an invalid column type, convert it to an `l` column:

```
9062 \ifbool{\LWR@validtablecol}{}{%
9063   \LWR@traceinfo{invalid column type: \LWR@strresult}%
9064   \LWR@parsenormalcolumn{l}%
9065 }%
9066 }% not an optional column argument
```

If read the closing bracket, no longer inside the optional argument:

```
9067 \IfStrEq{\LWR@strresult}{}{\boolfalse{\LWR@opttablecol}}{}%
```

Move to the next character:

```
9068 \defaddtocounter{\LWR@tablecolsindex}{1}%
9069 }% whiledo
9070 }%
```

## 75.16 `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.

```
9071 @ifundefined{rownum}{\newcount\rownum}{}%
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
9072 \newcommand*{\@rowcolors}{}%
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
9073 \newcommand*{\@rowc@lors}{}%
```

\LWR@xcolorrowHTMLcolor Emulated xcolor row color.

```
9074 \newcommand*{\LWR@xcolorrowHTMLcolor}{}%
```

\LWR@columnHTMLcolor HTMLstyle code for the column color.

```
9075 \def\LWR@columnHTMLcolor{}
```

\LWR@rowHTMLcolor HTMLstyle code for the row color.

```
9076 \def\LWR@rowHTMLcolor{}
```

\LWR@cellHTMLcolor HTMLstyle code for the cell color.

```
9077 \def\LWR@cellHTMLcolor{}
```

\LWR@ruleHTMLcolor HTMLstyle code for the rule color.

```
9078 \newcommand*{\LWR@ruleHTMLcolor}{}%
```

\rowcolor [ $\langle model \rangle$ ] [ $\langle color \rangle$ ] [ $\langle left overhang \rangle$ ] [ $\langle right overhang \rangle$ ] Print version. The HTML version is in \warp-colortbl. Used before starting a tabular data cell, thus \LWR@getmynexttoken.

```
9079 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

\arrayrulecolor [ $\langle model \rangle$ ] [ $\langle color \rangle$ ]

\arrayrulecolornexttoken [ $\langle model \rangle$ ] [ $\langle color \rangle$ ]

Print versions for use outside and inside a tabular:

```
9080 \newcommand{\arrayrulecolor}[2][named]{}%
```

```
9081 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

\doublerulesepcolor [ $\langle model \rangle$ ] [ $\langle color \rangle$ ]

\doublerulesepcolornexttoken [ $\langle model \rangle$ ] [ $\langle color \rangle$ ]

Print versions for use inside and outside a tabular:

```
9082 \newcommand{\doublerulesepcolor}[2][named]{}%
```

```
9083 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 75.17 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.

```

9084 \newcommand*{\LWR@maybenewtablerow}{%
9085 {%
9086     \ifbool{LWR@startedrow}{%
9087         {}% started the row
9088         {}% not started the row

```

Remember that now have started the row:

```
9089     \booltrue{LWR@startedrow}%
```

Create the row tag, with a class if necessary.

```

9090     \booltrue{LWR@intabularmetadata}%
9091     \ifboolexpr{%
9092         test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9093         test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}}%
9094     }%
9095     {%
9096         \LWR@htmlltag{tr class=\textquotedbl{}hline\textquotedbl }%
9097         \LWR@orignewline%
9098     }%
9099     {%
9100         \ifbool{LWR@doingtbrule}{%
9101             {%
9102                 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9103                     \LWR@htmlltag{tr class=\textquotedbl{}tbrule\textquotedbl}%
9104                 }{%
9105                     \LWR@htmlltag{%
9106                         tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9107                         style=\textquotedbl{}border-top: 1px solid % space
9108                         \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9109                     }%
9110                 }%
9111                 \LWR@orignewline%
9112             }%
9113             {\LWR@htmlltag{tr}\LWR@orignewline}%
9114         }% end of not doing hline
9115     }% end of not started the row
9116 }

```

## 75.18 Printing vertical bar tags

```
\LWR@printbartag {{index}}
```

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

9117 \newcommand*{\LWR@printbartag}[1]{%
9118     \LWR@traceinfo{\LWR@printbartag !#1!}%
9119     \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}{%
9120         {}% muting or empty
9121         {}% not muting
9122         \edef\LWR@tempone{\LWR@getexpparray{LWR@colbarspec}{#1}}%
9123         \ifdefempty{\LWR@tempone}{}{\LWR@tempone}%

```

```

9124      }% not muting
9125      \LWR@traceinfo{\LWR@printbartag done}%
9126 }

```

## 75.19 Printing @ or ! tags

\LWR@printatbang {*at—or—bang*} {*index*}

```
9127 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

9128     \xdef\LWR@atbangspec{\LWR@getexparray{\LWR@col#1spec}{#2}}%
9129     \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9130     \ifdefempty{\LWR@atbangspec}%
9131     {}%
9132     {% not empty
9133         \LWR@htmltag{%
9134             td class=\textquotedbl{}td#1%
9135             \LWR@subaddcmidruletrim{}{}%
9136             \LWR@printbartag{#2}%
9137             \textquotedbl{}%
9138             \LWR@tdstartstyles%
9139             \LWR@addcmidrulewidth%
9140             \LWR@addcdashline%
9141             \LWR@addtabularrulecolors%
9142             \LWR@tdendstyles%
9143     }%

```

Create an empty cell if muting for the \bottomrule:

```

9144     \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
9145     {}%
9146     {\LWR@atbangspec}%
9147 %}
9148     \LWR@htmltag{/td}\LWR@orignewline%
9149     \global\booltrue{\LWR@tabularcelladded}%
9150 }% not empty
9151 }%

```

\LWR@addleftmostbartag

```

9152 \newcommand*{\LWR@addleftmostbartag}{%
9153     \ifnumcomp{\value{\LWR@tableTeXcolindex}}{=}{1}{%
9154         \LWR@printbartag{leftedge}%
9155     }{}%
9156 }

```

```
\LWR@tabularleftedge
```

```
9157 \newcommand*{\LWR@tabularleftedge}{%
9158     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}%
9159     {%
9160         \LWR@printatbang{at}{leftedge}%
9161         \LWR@printatbang{bang}{leftedge}%
9162     }% left edge
9163     {}% not left edge
9164 }
```

## 75.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```
9165 \newcommand*{\LWR@thiscolspec}{}%
```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```
9166 \newcommand*{\LWR@tabledatasinglecolumntag}{%
9167 {%
9168     \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
9169     \LWR@maybenewtablerow%
```

Don't start a new paragraph tag if have already started one:

```
9170     \ifbool{\LWR@intabularmetadata}%
9171     {%
```

If have found the end of tabular command, do not create the next data cell:

```
9172         \ifbool{\LWR@exittingtabular}{}%
9173         {%
9174             \LWR@tabularleftedge%
```

Print the @ and ! contents before first column:

```
9174             \LWR@tabularleftedge%
```

Fetch the current column's alignment character into \LWR@strresult:

```
9175             \xdef\LWR@strresult{%
9176                 \LWR@getexparray{\LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}}%
9177             }%
```

Print the start of a new table data cell:

```
9178             \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to print td tag}%
9179             \LWR@htmlltag{%
9180                 td class=\textquotedbl{}td%
```

Append this column's spec:

```
9181          \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9182          \LWR@addcmidruletrim%
9183          \LWR@addleftmostbartag%
9184          \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
9185          \textquotedbl{}%
```

Add styles for rules, alignment:

```
9186          \LWR@tdstartstyles%
9187          \LWR@addcmidrulewidth%
9188          \LWR@addcdashline%

9189          \xdef\LWR@thiscolspec{%
9190              \LWR@getexparray{LWR@tablecolspec}%
9191                  {\arabic{LWR@tableLaTeXcolindex}}%
9192          }%
9193          \LWR@addformatwpalignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
9194          \LWR@addtabulararrowcolor%
9195          \LWR@addtabularrulecolors%

9196          \LWR@tdendstyles%
9197      }% HTML td
9198      \LWR@traceinfo{LWR@tabledatasinglecolumntag: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```
9199          \ifboolexpr{%
9200              \ifdefstring{\LWR@strresult}{p} } or
9201              \ifdefstring{\LWR@strresult}{m} } or
9202              \ifdefstring{\LWR@strresult}{b} } or
9203              \ifdefstring{\LWR@strresult}{P} } or
9204              \ifdefstring{\LWR@strresult}{M} } or
9205              \ifdefstring{\LWR@strresult}{B} } or
9206              \ifdefstring{\LWR@strresult}{X} }
9207          }%
9208          % allow pars
9209          \LWR@traceinfo{LWR@tabledatasinglecolumntag: about to LWR@startpars}%
9210          \booltrue{LWR@tableparcell}%
9211          \LWR@startpars%
9212          \LWR@traceinfo{LWR@tabledatasinglecolumntag: done with LWR@startpars}%
9213          }% allow pars
9214          {}% no pars
```

Print the > contents unless muted for the \bottomrule:

---

```

9215      \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9216      {}%
9217      {}%
9218      \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
9219      }%
9220      \boolefalse{\LWR@intabularmetadata}%
9221      }% not exiting tabular
9222  }{}% in tabular metadata
9223  \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
9224 }%

```

## 75.21 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.

`Len \LWR@heavyrulewidth` The default width of the rule.

```

9225 \newlength{\LWR@heavyrulewidth}
9226 \setlength{\LWR@heavyrulewidth}{.08em}

```

`Len \LWR@lightrulewidth` The default width of the rule.

```

9227 \newlength{\LWR@lightrulewidth}
9228 \setlength{\LWR@lightrulewidth}{.05em}

```

`Len \LWR@cmidrulewidth` The default width of the rule.

```

9229 \newlength{\LWR@cmidrulewidth}
9230 \setlength{\LWR@cmidrulewidth}{.03em}

```

`Len \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.

```

9231 \newlength{\LWR@thiscmidrulewidth}
9232 \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.

```

9233 \newcommand*{\LWR@clearmidrules}{%
9234 {%
9235   \defcounter{LWR@midrulecounter}{1}%
9236   \whileboolexpr{%
9237     not test{%
9238       \ifnumcomp{\value{LWR@midrulecounter}}{>}{}{%
9239         {\value{LWR@tabletotalLaTeXcols}}%}
9240     }%
9241   }%
9242   {%
9243     \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
9244     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9245     \LWR@setexpparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
9246     \LWR@setexpparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9247     \LWR@setexpparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9248     \defaddtocounter{LWR@midrulecounter}{1}%
9249   }%
9250 }

```

\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.

```

9251 \newcommand*{\LWR@subcmidrule}[4]{%
9252   \defcounter{LWR@midrulecounter}{#3}%
9253   \whileboolexpr{%
9254     not test {%
9255       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}{%
9256     }%
9257   }%
9258   {%
9259     \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9260     \defaddtocounter{LWR@midrulecounter}{1}%
9261   }%
9262   \IfSubStr{#2}{l}{\LWR@setexpparray{LWR@trimlrules}{#3}{l}}{}%
9263   \IfSubStr{#2}{r}{\LWR@setexpparray{LWR@trimrrules}{#4}{r}}{}%
9264   \booltrue{LWR@doingcmidrule}%
9265 }

```

\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.

```

9266 \NewDocumentCommand{\LWR@docmidrule}{%
9267   O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}m}%
9268   {\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.

```

9269 \newcommand*{\LWR@subcdashline}[2]{%
9270     \defcounter{LWR@midrulecounter}{#1}%
9271     \whileboolexpr{%
9272         not test {%
9273             \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
9274         }%
9275     }%
9276     {%
9277         \LWR@setexpararray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
9278         \defaddtocounter{LWR@midrulecounter}{1}%
9279     }% whiledo
9280     \booltrue{LWR@doingcmidrule}%
9281 }
```

\LWR@docdashline {⟨leftcolumn-rightcolumn⟩}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```

9282 \NewDocumentCommand{\LWR@docdashline}{%
9283     >{\SplitArgument{1}{-}m}%
9284     {%
9285         \LWR@subcdashline#1%
9286     }}
```

\LWR@tdstartstyles Begins possibly adding a table data cell style.

```
9287 \newcommand*{\LWR@tdstartstyles}{\boolfalse{LWR@tdhavecellstyle}}
```

\LWR@tdaddstyle Starts adding a table data cell style.

```

9288 \newcommand*{\LWR@tdaddstyle}{%
9289     \ifbool{LWR@tdhavecellstyle}{%
9290         {}%
9291         { style=\textquotedbl}%
9292     }%
9293 }
```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```

9294 \newcommand*{\LWR@tdendstyles}{%
9295     \ifbool{LWR@tdhavecellstyle}{%
9296         {}%
9297         \textquotedbl%
9298         \boolfalse{LWR@tdhavecellstyle}%
9299     }{}%
9300 }
```

---

\LWR@subaddcmidruletrim {⟨lefttrim⟩} {⟨righttrim⟩} Adds a \cmidrule with optional trim.

```

9301 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9302     \setlength{\LWR@templengthone}{%
9303         \LWR@getexpparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
9304     }%
9305     \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9306     {%

```

Print the class with left and right trim letters appended:

```
9307             \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```

9308         \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9309     }%
9310     {%
9311         \setlength{\LWR@thiscmidrulewidth}{0pt}%
9312     }%
9313 }
```

\LWR@addcmidruletrim Adds left or right trim to a \cmidrule.

```

9314 \newcommand*{\LWR@addcmidruletrim}{%
9315     \LWR@subaddcmidruletrim{%
9316         {\LWR@getexpparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9317         {\LWR@getexpparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9318 }}
```

\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.

```
9319 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if thiswidth is different than the defaultwidth, or if a color is being used:

```

9320     \ifboolexpr{%
9321         test{\ifdimcomp{\#1}{=}{0pt}} or
9322         (
9323             ( test{\ifdimcomp{\#1}{=}{\#2}} and not bool{FormatWP} )
9324             and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
9325         )
9326     }%
9327     {}% default width and color
9328     {}% custom width and/or color
```

Ensure that the width is wide enough to display in the browser:

```
9329 \LWR@forceminwidth{\#1}%
```

Begin adding another style:

```
9330 \LWR@tdaddstyle%
```

The style itself:

```
9331 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
9332 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9333   \ifdimcomp{\#1}{<}{\LWR@lightrulewidth}{%
9334     {\LWR@origpound{A0A0A0}}%
9335     {%
9336       \ifdimcomp{\#1}{<}{\LWR@heavyrulewidth}{%
9337         {\LWR@origpound{808080}}%
9338         {black}}%
9339       {%
9340         \LWR@origpound{\LWR@ruleHTMLcolor}}%
9341       {%
9342         \LWR@origpound{\LWR@ruleHTMLcolor}}%
9343     }%
9344   }%
9345 }% custom width and/or color
```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
9345 \newcommand{\LWR@addcmidrulewidth}{%
9346   \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}}%
9347 }
```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
9348 \newcommand{\LWR@addcdashline}{%
9349   \edef\LWR@tempone{%
9350     \LWR@getexpparray{\LWR@cdashlines}{\arabic{LWR@tableLaTeXcolindex}}%
9351   }%
9352   \ifdefstring{\LWR@tempone}{Y}{%
9353     \LWR@tdaddstyle%
9354     border-top: 1pt dashed %
9355     \ifdefvoid{\LWR@ruleHTMLcolor}{%
9356       {black}}%
9357       {\LWR@origpound{\LWR@ruleHTMLcolor}}%
9358     }{}%
9359 }
```

\LWR@WPcell {\text-align} {\vertical-align}

```
9360 \newcommand*{\LWR@WPcell}[2]{%
```

```

9361      \LWR@tdaddstyle%
9362      \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}%
9363 }

```

\LWR@addformatwpalignment If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

9364 \newcommand*{\LWR@addformatwpalignment}[1]{%
9365     \ifbool{FormatWP}{%
9366         \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
9367         \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
9368         \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
9369         \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
9370         \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
9371         \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
9372         \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%
9373         \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
9374         \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
9375     }{}%
9376 }

```

## 75.22 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.

```

9377 \newcommand*{\LWR@addtabularrowcolor}{%
9378     \ifbool{LWR@tabularmutemods}{%
9379         \ifdefvoid{\LWR@rowHTMLcolor}{%
9380             \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9381                 \% xcolor row color
9382                 \LWR@tdaddstyle%
9383                 background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9384             }%
9385         }%
9386         \% explicit row color
9387         \LWR@tdaddstyle%
9388         background:\LWR@origpound\LWR@rowHTMLcolor%
9389     }%
9390 }%
9391 }

```

\LWR@addtabularhrulecolor Adds a cell's horizontal rule color style, if needed.

```
9392 \newcommand*{\LWR@addtabularhrulecolor}{%
```

If either form of horizontal rule is requested:

```
9393     \ifboolexpr{%
```

```

9394     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9395     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9396     bool{LWR@doingtbrule}%
9397 }{%

```

If there is a no custom color:

```

9398     \ifdefvoid{\LWR@ruleHTMLcolor}%
9399     {%
9400         \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9401         {%
9402             \LWR@tdaddstyle%
9403             border-top: 4px double%
9404         }{%
9405             \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9406             {%
9407                 \LWR@tdaddstyle%
9408                 border-top: 2px dashed%
9409             }{%
9410                 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9411                 {%
9412                     \LWR@tdaddstyle%
9413                     border-top: 1px dashed%
9414                 }{}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
9415 }%
```

If there is a custom color:

```

9416     {%
9417         \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9418         {%
9419             \LWR@tdaddstyle%
9420             border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9421         }{%
9422             \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9423             {%
9424                 \LWR@tdaddstyle%
9425                 border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9426             }{%
9427                 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9428                 {%
9429                     \LWR@tdaddstyle%
9430                     border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9431                 }{%
9432                     \LWR@tdaddstyle%
9433                     border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9434                 }{}}%
9435     }%
9436 }{%
9437 }

```

\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.

```
9438 \newcommand*\LWR@addtabularrulecolors{%
```

Custom horizontal rule color:

```
9439 \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9440 \ifbool{\LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
9441 \ifnumequal{\value{\LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
9442 \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9443 \ifdefstring{\LWR@tempone}{tvertbarl}{%
9444   \LWR@tdaddstyle%
9445   border-left: 1px solid % space
9446   \LWR@vertruleHTMLcolor%
9447 }{%
9448 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9449   \LWR@tdaddstyle%
9450   border-left: 4px double % space
9451   \LWR@vertruleHTMLcolor%
9452 }{%
9453 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9454   \LWR@tdaddstyle%
9455   border-left: 1px dashed % space
9456   \LWR@vertruleHTMLcolor%
9457 }{%
9458 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9459   \LWR@tdaddstyle%
9460   border-left: 2px dashed % space
9461   \LWR@vertruleHTMLcolor%
9462 }{%
9463 }}
```

Possibly add a right vertical rule for this cell:

```
9464 \edef\LWR@tempone{%
9465   \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9466 }%
9467 \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```

9468          \LWR@tdaddstyle%
9469          border-right: 1px solid \LWR@verruleHTMLcolor%
9470      }{}}%
9471      \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9472          \LWR@tdaddstyle%
9473          border-right: 4px double \LWR@verruleHTMLcolor%
9474      }{}}%
9475      \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9476          \LWR@tdaddstyle%
9477          border-right: 1px dashed \LWR@verruleHTMLcolor%
9478      }{}}%
9479      \ifdefstring{\LWR@tempone}{tvertbarrdashed}{%
9480          \LWR@tdaddstyle%
9481          border-right: 2px dashed \LWR@verruleHTMLcolor%
9482      }{}}%
9483  }%
9484 }
```

\LWR@subaddtabularcellcolor {<html color>}

```

9485 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9486     \LWR@htmntag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
9487         style=\textquotedbl{}%
9488         background:\LWR@origpound{}{}#1 %
9489         \textquotedbl\ %
9490     }% space
9491     \defaddtocounter{\LWR@cellcolordepth}{1}%
9492 }
```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```

9493 \newcommand*{\LWR@addtabularcellcolor}{%
9494     \ifdefvoid{\LWR@cellHTMLcolor}{%
9495     }{%
9496         \ifdefvoid{\LWR@rowHTMLcolor}{%
9497             \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9498                 \ifdefvoid{\LWR@columnHTMLcolor}{%
9499                     \LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}%
9500                 }{%
9501                     \LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}%
9502                 }%
9503             }{%
9504                 \LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}%
9505             }%
9506             \LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}%
9507         }%
9508     \LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}%
9509 }
```

## 75.23 Multicolumns

### 75.23.1 Parsing multicolumns

\LWR@printmccoltype {<colspec>} 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.

```
9510 \newcommand*{\LWR@printmccoltype}[1]{%
9511     \LWR@traceinfo{lwr@printmccoltype -#1-}%

```

Get one token of the column spec:

```
9512     \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Add to the HTML tag depending on which column type is found:

```
9513     \IfStrEq{\LWR@strresult}{l}{l}{%
9514     \IfStrEq{\LWR@strresult}{c}{c}{%
9515     \IfStrEq{\LWR@strresult}{r}{r}{%
9516     \IfStrEq{\LWR@strresult}{p}{p}{%
9517     \IfStrEq{\LWR@strresult}{m}{m}{%
9518     \IfStrEq{\LWR@strresult}{b}{b}{%
9519     \IfStrEq{\LWR@strresult}{P}{P}{%
9520     \IfStrEq{\LWR@strresult}{M}{M}{%
9521     \IfStrEq{\LWR@strresult}{B}{B}{%
9522     \IfStrEq{\LWR@strresult}{w}{w}{%
9523     \IfStrEq{\LWR@strresult}{W}{W}{%
9524     \IfStrEq{\LWR@strresult}{S}{c}{%
9525     \IfStrEq{\LWR@strresult}{s}{c}{%
9526     \IfStrEq{\LWR@strresult}{X}{p}{%
9527     \IfStrEq{\LWR@strresult}{|}{%
9528     {%
9529         \ifbool{LWR@mcolvertbaronleft}{%
9530             {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
9531             {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
9532         }%
9533         {%
9534             \IfStrEq{\LWR@strresult}{:}{%
9535                 {%
9536                     \ifbool{LWR@mcolvertbaronleft}{%
9537                         {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9538                         {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9539                 }%
9540                 {%
9541                     \IfStrEq{\LWR@strresult}{;}{%
9542                         {%

```

```

9543           \ifbool{LWR@mcolvertbaronleft}%
9544             {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9545             {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9546           }%
9547           {\boolearnfalse{LWR@mcolvertbaronleft}}%
9548         }%
9549       }%
9550   \LWR@traceinfo{lwr@printmccoltype done}%
9551 }

```

\LWR@multicolpartext {*<num parameters>*} Print the data with paragraph tags, advance to bypass the given number of parameters.

```

9552 \newcommand*{\LWR@multicolpartext}[1]{%
9553   \LWR@startpars%
9554   \LWR@multicoltext%
9555   \defaddtocounter{LWR@tablemulticolspos}{#1}%
9556   \LWR@stoppars%
9557 }

```

\LWR@multicolother {*<colspec>*} For @, !, >, <, print the next token without paragraph tags:

```

9558 \newcommand*{\LWR@multicolother}[1]{%
9559   \defaddtocounter{LWR@tablemulticolspos}{1}%
9560   \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9561   \LWR@strresult%

```

A valid column data type was found:

```

9562   \boolearntrue{LWR@validtablecol}%
9563 }

```

\LWR@multicolskip Nothing to print for this column type.

```

9564 \newcommand*{\LWR@multicolskip}{%

```

A valid column data type was found:

```

9565   \boolearntrue{LWR@validtablecol}%
9566 }

```

\LWR@printmccoldata {*<colspec>*} Print the data for any valid column type found.

```

9567 \newcommand*{\LWR@printmccoldata}[1]{%
9568   \LWR@traceinfo{lwr@printmccoldata -#1}%

```

Not yet found a valid column type:

```

9569   \boolearnfalse{LWR@validtablecol}%

```

Get one token of the column spec, into a local copy in case nested.

```
9570     \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9571     \edef\LWR@printmccoldatatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
9572     \IfStrEq{\LWR@printmccoldatatoken}{l}{\LWR@multicoltext}{}%
9573     \IfStrEq{\LWR@printmccoldatatoken}{c}{\LWR@multicoltext}{}%
9574     \IfStrEq{\LWR@printmccoldatatoken}{r}{\LWR@multicoltext}{}%
9575     \IfStrEq{\LWR@printmccoldatatoken}{D}{%
9576         \defaddtocounter{LWR@tablemulticolspos}{3}% skip parameters
9577         \LWR@multicoltext%
9578     }{}%
```

  

```
9579     \IfStrEq{\LWR@printmccoldatatoken}{p}{\LWR@multicolpartext{2}}{}%
9580     \IfStrEq{\LWR@printmccoldatatoken}{m}{\LWR@multicolpartext{2}}{}%
9581     \IfStrEq{\LWR@printmccoldatatoken}{b}{\LWR@multicolpartext{2}}{}%
9582     \IfStrEq{\LWR@printmccoldatatoken}{P}{\LWR@multicolpartext{2}}{}%
9583     \IfStrEq{\LWR@printmccoldatatoken}{M}{\LWR@multicolpartext{2}}{}%
9584     \IfStrEq{\LWR@printmccoldatatoken}{B}{\LWR@multicolpartext{2}}{}%
```

  

```
9585     \IfStrEq{\LWR@printmccoldatatoken}{w}{\LWR@multicolpartext{3}}{}%
9586     \IfStrEq{\LWR@printmccoldatatoken}{W}{\LWR@multicolpartext{3}}{}%
```

  

```
9587     \IfStrEq{\LWR@printmccoldatatoken}{S}{\LWR@multicoltext}{}%
9588     \IfStrEq{\LWR@printmccoldatatoken}{s}{\LWR@multicoltext}{}%
```

  

```
9589     \IfStrEq{\LWR@printmccoldatatoken}{X}{\LWR@multicolpartext{1}}{}%
9590     \IfStrEq{\LWR@printmccoldatatoken}{|}{\LWR@multicolskip}{}%
9591     \IfStrEq{\LWR@printmccoldatatoken}{:}{\LWR@multicolskip}{}%
9592     \IfStrEq{\LWR@printmccoldatatoken}{;}{%
9593         \LWR@multicolskip%
9594         \defaddtocounter{LWR@tablemulticolspos}{1}% skip parameter
9595     }{}%
9596     \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{@}}{\LWR@multicolother{#1}}{}%
9597     \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{!!}}{\LWR@multicolother{#1}}{}%
9598     \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{>}}{\LWR@multicolother{#1}}{}%
9599     \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{<}}{\LWR@multicolother{#1}}{}%
```

If an invalid column type:

```
9600     \ifbool{LWR@validtablecol}{}{\LWR@multicoltext}{}%
```

Tracing:

```
9601     \LWR@traceinfo{lwr@printmccoldata done}%
9602 }
```

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.

```
9603 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9604     \defcounter{LWR@tablemulticolspos}{1}%
9605     \StrLen{\#1}[\LWR@strresult]%
9606     \defcounter{LWR@tablemulticolswidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
9607     \whileboolexpr{%
9608         not test {%
9609             \ifnumcomp{\value{LWR@tablemulticolspos}}{>}{%
9610                 \value{LWR@tablemulticolswidth}%
9611             }%
9612         }%
9613     }%
```

Execute the assigned print function for each token in the column spec:

```
9614     #2{\#1}%
```

Move to the next token in the column spec:

```
9615     \defaddtocounter{LWR@tablemulticolspos}{1}%
9616 }%
9617 }
```

### 75.23.2 Multicolumn factored code

\LWR@addmulticolverrulecolor

```
9618 \newcommand*{\LWR@addmulticolverrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9619     \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```
9620     \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9621         \LWR@tdaddstyle%
9622         border-left: 1px solid \LWR@vertruleHTMLcolor%
9623     }{%
9624     \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9625         \LWR@tdaddstyle%
9626         border-left: 4px double \LWR@vertruleHTMLcolor%
9627     }{%
9628     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
9629         \LWR@tdaddstyle%
```

```

9630         border-left: 1px dashed \LWR@vertruleHTMLcolor%
9631     }{ }%
9632     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9633         \LWR@tdaddstyle%
9634         border-left: 2px dashed \LWR@vertruleHTMLcolor%
9635     }{ }%

```

Right side:

```

9636     \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
9637         \LWR@tdaddstyle%
9638         border-right: 1px solid \LWR@vertruleHTMLcolor%
9639     }{ }%
9640     \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
9641         \LWR@tdaddstyle%
9642         border-right: 4px double \LWR@vertruleHTMLcolor%
9643     }{ }%
9644     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
9645         \LWR@tdaddstyle%
9646         border-right: 1px dashed \LWR@vertruleHTMLcolor%
9647     }{ }%
9648     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9649         \LWR@tdaddstyle%
9650         border-right: 2px dashed \LWR@vertruleHTMLcolor%
9651     }{ }%
9652 }{ }%
9653 }

9654 \newcommand{\LWR@multicoltext}{}


```

To find multicolumn right trim:

```

9655 \newcounter{LWR@lastmulticolumn}

\LWR@domulticolumn [⟨1: vpos⟩] [⟨2: #rows⟩] {⟨3: numLaTeXcols⟩} {⟨4: numHTMLcols⟩} {⟨5: colspec⟩}
{⟨6: text⟩}

9656 \NewDocumentCommand{\LWR@domulticolumn}{o o m m m +m}{%
9657     \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and remember that a valid column type was found:

```

9658 \renewcommand{\LWR@multicoltext}{%
9659     #6%
9660     \booltrue{LWR@validtablecol}%
9661 }%

```

Compute the rightmost column to be included. This is used to create the right trim.

```

9662 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9663 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9664 \defaddtocounter{LWR@lastmulticolumn}{-1}%

```

Row processing:

```
9665      \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9666      \LWR@htmltag{%
9667          td colspan=\textquotedbl#4\textquotedbl\ %
9668          \IfValueT{\#2}{ % rows?
9669              rowspan=\textquotedbl#2\textquotedbl\ %
9670          }%
9671      class=\textquotedbl{}td%
```

Print the column type and vertical bars:

```
9672      \defcounter{LWR@mcolvertbarsl}{0}%
9673      \defcounter{LWR@mcolvertbarsr}{0}%
9674      \defcounter{LWR@mcolvertbarsldash}{0}%
9675      \defcounter{LWR@mcolvertbarsrdash}{0}%
9676      \booltrue{LWR@mcolvertbaronleft}%
9677      \LWR@parsemulticolumnalignment{#5}{\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:

```
9678      \LWR@subaddcmidruletrim%
9679          {%
9680              \LWR@getexpparray{\LWR@trimlrules}%
9681                  {\arabic{\LWR@tableLaTeXcolindex}}%
9682          }%
9683          {%
9684              \LWR@getexpparray{\LWR@trimrrules}%
9685                  {\arabic{\LWR@lastmulticolumn}}%
9686          }%
```

Also add vertical bar class.

```
9687      \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}
9688      \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}
9689      \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}
9690      \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}
9691      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}
9692      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{ tvertbarldoubledash}{}
9693      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}
9694      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{ tvertbarrdoubledash}{}
```

Close the class tag's opening quote:

```
9697      \textquotedbl{}
```

---

9698 \LWR@tdstartstyles%

Style for vertical position:

```
9699     \IfValueT{#1}{% vpos?
9700         \ifstrequal{#1}{b}{%
9701             {%
9702                 \LWR@tdaddstyle%
9703                 \LWR@print@mbox{vertical-align:bottom}%
9704             }{}}%
9705         \ifstrequal{#1}{t}{%
9706             {%
9707                 \LWR@tdaddstyle%
9708                 \LWR@print@mbox{vertical-align:top}%
9709             }{}}%
9710     }% vpos?
```

Style for row colors:

9711 \LWR@addtabulararrowcolor%

Other styles:

```
9712     \LWR@addcmidrulewidth%
9713     \LWR@addcdashline%
9714     \LWR@addtabularhrulecolor%
9715     \LWR@addmulticolvertrulecolor%
9716     \LWR@addformatwpalignment{#5}%
9717     \LWR@tdendstyles%
9718 }% end of the opening table data tag
9719 \boolfalse{\LWR@intabularmetadata}%
9720 \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoldata}%
9721 }
```

### 75.23.3 Multicolumn

\LWR@htmlmulticolumn {\langle numcols \rangle} {\langle alignment \rangle} {\langle text \rangle}

```
9722 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}{%
9723 {%
```

Figure out how many extra HTML columns to add for @ and ! columns:

9724 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{#1}{}

Create the multicolumn tag:

9725 \LWR@domulticolumn{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#3}{}

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
9726 \defaddtocounter{\LWR@tableLaTeXcolindex}{#1}{}
9727 \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}{}
```

Skip any trailing @ or ! columns for this cell:

```
9728     \booltrue{LWR@skipatbang}%
9729 }
```

#### 75.23.4 Longtable captions

`longtable` captions use `\multicolumn`.

Per the `caption` package. User-redefinable float type.

```
9730 \providecommand*\LTcaptype{table}
```

```
\LWR@longtabledatacaptiontag * [<toc entry>] {<caption>}
```

```
9731 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
9732 {%
```

Remember the latest name for `\nameref`:

```
9733 \IfValueTF{#2}{% optional given?
9734     \ifblank{#2}{% optional empty?
9735         {\LWR@setlatestname{#3}}% empty
9736         {\LWR@setlatestname{#2}}% given and non-empty
9737     }% optional given
9738     {\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:

```
9739 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag:

```
9740 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9741     {\arabic{LWR@tabhtmlcoltotal}}%
9742     {P}%
9743     {\LWR@domulticolumn
9744     \IfBooleanTF{#1}{star?}
```

Star version, show a caption but do not make a LOT entry:

```
9745     {yes star
9746         \LWR@figcaption%
9747         \LWR@isolate{#3}%
9748         \endLWR@figcaption%
9749     }%
9750     {No star:
```

Not the star version:

Don't step the counter if \caption[]{}{A caption.}

```

9751      \ifbool{LWR@starredlongtable}%
9752      {%
9753          \ifblank{#2}{% TOC entry
9754              {}%
9755              {%
9756                  \refstepcounter{\LTcattypename}%
9757                  \protected@edef\@currentlabel{%
9758                      \@nameuse{p@\LTcattypename}\@nameuse{the\LTcattypename}%
9759                  }%
9760              }%
9761          }{%
9761      }{%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9762      \LWR@figcaption%
9763      \LWR@isolate{@nameuse{fnum@\LTcattypename}}%
9764      \CaptionSeparator%
9765      \LWR@isolate{#3}%
9766      \endLWR@figcaption%

```

See if an optional caption was given:

```
9767      \ifblank{#2}{% TOC entry empty
```

if the optional caption was given, but empty, do not form a TOC entry

```
9768      {}%
```

If the optional caption was given, but might only be []:

```

9769      {%
9770          \IfNoValueTF{#2}{% No TOC entry?}
```

The optional caption is []:

```

9771      {%
9772          \addcontentsline{%
9773              \@nameuse{ext@\LTcattypename}}{%
9774                  \LTcattypename}%
9775          {%
9776              \protect\newline%
9777              \LWR@isolate{@nameuse{p@\LTcattypename}\@nameuse{the\LTcattypename}}{%
9778                  \ignorespaces \LWR@isolate{#3}\protect\relax}%
9779          }%
9780      }% end of No TOC entry
```

The optional caption has text enclosed:

```

9781      {%
9782          \addcontentsline{%

```

```

9783          {\@nameuse{ext@\LTcaptive}}%
9784          {\LTcaptive}%
9785          {%
9786              \protect\newline%
9787              {\LWR@isolate{\@nameuse{p@\LTcaptive}}\@nameuse{the\LTcaptive}}%
9788                  {\ignorespaces \LWR@isolate{\#2}\protect\relax}%
9789          }%
9790      }% end of yes TOC entry
9791  }% end of TOC entry not empty
9792 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

9793  \booltrue{\LWR@skipatbang}%
9794  }% end of \LWR@domulticolumn
9795  \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
9796  \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
9797
9798 }

```

### 75.23.5 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.

```

9799 \newcounter{\LWR@tabhtmlcolindex}
9800 \newcounter{\LWR@tabhtmlcolend}
9801 \newcounter{\LWR@tabhtmlcoltotal}

```

```
\LWR@subtabularhtmlcolumns {\langle index\rangle}
```

Factored from \LWR@tabularhtmlcolumns, which follows.

```
9802 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
9803 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```

9804 \ifdefempty{\LWR@atbangspec}%
9805     {}%
9806     {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%

```

Likewise for the ! columns:

```
9807 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
9808 \ifdefempty{\LWR@atbangspec}%
9809 {}%
9810 {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
9811 }
```

\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.

```
9812 \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:

```
9813 \defcounter{\LWR@tabhtmlcolindex}{#1}%
9814 \defcounter{\LWR@tabhtmlcoltotal}{#2}%
9815 \defcounter{\LWR@tabhtmlcolend}{#1}%
9816 \defaddtocounter{\LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
9817 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{=}{1}{%
9818 \LWR@subtabularhtmlcolumns{leftedge}%
9819 }{}
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
9820 \whileboolexpr{%
9821 test {%
9822 \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{<}{\value{\LWR@tabhtmlcolend}}{%
9823 }%
9824 }%
9825 {%
9826 \LWR@subtabularhtmlcolumns{\arabic{\LWR@tabhtmlcolindex}}%
9827 \defaddtocounter{\LWR@tabhtmlcolindex}{1}%
9828 }% whiledo
9829 }%
9830 \end{warpHTML}
```

## 75.24 Multirow if not loaded

A default definition in case multirow is not loaded. This is used during table parsing.

```
9831 \begin{warpHTML}
9832 \newcommand{\multirow}[2][c]{}%
9833 \end{warpHTML}
```

## 75.25 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `\teximage`.

See section 425 for the HTML versions.

**for HTML & PRINT:** 9834 `\begin{warpall}`

```
\multicolumnrow {\{1:cols\}} {\{2:halign\}} [\{3:vpos\}] {\{4:numrows\}} [\{5:bigstruts\}] {\{6:width\}} [\{7:fixup\}] {\{8:text\}}
```

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.

9835 `\AtBeginDocument{`

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
9836 \@ifundefined{@xmultirow}
9837 {
9838 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9839     {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9840     {}%
9841 }% no version of multirow was loaded
9842 { \% @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:

```
9843 \@ifpackageloaded{multirow}{% v2.0 or newer
9844 \@ifpackagelater{multirow}{2016/09/01}{% 2016/09/27 for v2.0
9845 {%
9846 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9847     {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9848     {\multicolumn{\#1}{\#2}{\@xmultirow[\#3][\#4][\#5][\#6][\#7][\#8]}}%
9849 }
9850 {%
9851 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9852     {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9853     {\multicolumn{\#1}{\#2}{\@xmultirow[\#4][\#5][\#6][\#7][\#8]}}%
9854 }
9855 }% packageloaded{multirow}
```

If not `\@ifpackageloaded{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.

```

9856 {%
  v1.6 or older did not \ProvidePackage
9857 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
9858   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9859   {\multicolumn{#1}{#2}{\@xmultirow{#4}{#5}{#6}{#7}{#8}}}}%
9860 }
9861
9862 }% \@ifundefined{@xmultirow}
9863
9864 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
9865
9866 }% AtBeginDocument

9867 \end{warpall}

```

## 75.26 Utility macros inside a table

**for HTML output:** 9868 `\begin{warpHTML}`

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9869 \newcommand*{\LWR@donothing}{}%
```

In case `array` is not loaded:

```

9870 \let\firsthline\relax
9871 \let\lasthline\relax
9872 \newcommand*{\firsthline}{}%
9873 \newcommand*{\lasthline}{}%

```

In case `bigdelim` is not loaded:

```

9874 \newcommand*{\ldelim}{}%
9875 \newcommand*{\rdelim}{}%

```

```
9876 \end{warpHTML}
```

## 75.27 Special-case tabular markers

**for HTML & PRINT:** 9877 `\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](#).

```
9878 \newcommand*{\TabularMacro}{}%
```

```
9879 \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:** 9880 \begin{warpHTML}

```
9881 \newcommand*\{\ResumeTabular\}{%
9882   \boolfalse{LWR@existingtabular}%
9883   \boolfalse{LWR@tabularatmetabegin}%
9884   \LWR@getmynexttoken%
9885 }
```

```
9886 \end{warpHTML}
```

**for PRINT output:** 9887 \begin{warpprint}

```
9888 \newcommand*\{\ResumeTabular\}{}
9889 \end{warpprint}
```

## 75.28 Checking for a new table cell

**for HTML output:** 9890 \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:

```
9891 \newcommand*\{\LWR@tabledatacolumntag\}{%
9892 {%
9893   \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:

```
9894     \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```
9895     \ifdefequal{\LWR@mynexttoken}{\end}%
9896         {\booltrue{LWR@exittingtabular}}{}%
```

`longtable` can have a caption in a cell

```
9897     \ifdefequal{\LWR@mynexttoken}{\caption}%
9898         {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

Look for other things which would not start a table cell:

```
9899     \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
9900         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9901     \ifdefequal{\LWR@mynexttoken}{\multirow}%
9902         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9903     \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
9904         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9905     \ifdefequal{\LWR@mynexttoken}{\noalign}%
9906         {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
9907     \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
9908         {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
9909     \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
9910         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9911     \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
9912         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9913     \ifdefequal{\LWR@mynexttoken}{\hline}%
9914         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9915     \ifdefequal{\LWR@mynexttoken}{\firsthline}%
9916         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9917     \ifdefequal{\LWR@mynexttoken}{\lasthline}%
9918         {\global\let\LWR@mynextaction\LWR@donothing}{}%
9919     \ifdefequal{\LWR@mynexttoken}{\toprule}%
9920         {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```

9921 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9922   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9923 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9924   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9925 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
9926   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9927 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
9928   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9929 \ifdefequal{\LWR@mynexttoken}{\cline}%
9930   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9931 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
9932   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9933 \ifdefequal{\LWR@mynexttoken}{\hhline}%
9934   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9935 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
9936   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9937 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
9938   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9939 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
9940   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9941 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
9942   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9943 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
9944   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9945 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
9946   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9947 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
9948   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

For arydshln:

```

9949 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
9950   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9951 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
9952   {\global\let\LWR@mynextaction\LWR@donothing}{ }%
9953 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
9954   {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

---

```
9955 \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
9956   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

Ignore an empty line between rows:

```
9957 \ifdefequal{\LWR@mynexttoken}{\par}%
9958   {\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:

```
9959 \LWR@traceinfo{\LWR@tabledatacolumntag: about to do mynext}%
9960 \LWR@mynextaction%
9961 \LWR@traceinfo{\LWR@tabledatacolumntag: done}%
9962 }

9963 \end{warpHTML}
```

## 75.29 \mrowcell

**for HTML & PRINT:** 9964 \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.

```
9965 \newcommand*\mrowcell{}{}

9966 \end{warpall}
```

## 75.30 \mcolrowcell

**for HTML & PRINT:** 9967 \begin{warpall}

⚠ **multirow cells** The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.

```
9968 \newcommand*\mcolrowcell{}{}

9969 \end{warpall}
```

### 75.31 HTML tabular environment

**for HTML output:** 9970 \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.

```
9971 \providecommand*\toprule[1][]{\hline}
9972 \providecommand*\midrule[1][]{\hline}
9973 \providecommand*\cmidrule{\cline}
9974 \providecommand*\bottomrule[1][]{\hline}
9975 \providecommand*\addlinespace[1][]{}
9976 \providecommand*\morecmidrules(){}
9977 \providecommand*\specialrule[3]{\hline}
```

\noalign {⟨text⟩} Redefined for use inside tabular.

```
9978 \LetLtxMacro{\LWR@orignoalign}{\noalign}
9979
9980 \newcommand{\LWR@tabularnoalign}[1]{%
9981   \advance\rownum\m@ne%
9982   \LetLtxMacro{\LWR@save@xcolorrowHTMLcolor}{\LWR@xcolorrowHTMLcolor}%
9983   \renewcommand*{\LWR@xcolorrowHTMLcolor}{}%
9984   \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{\l}{\#1} \\
9985   \LetLtxMacro{\LWR@xcolorrowHTMLcolor}{\LWR@save@xcolorrowHTMLcolor}%
9986   % \@rowc@lors%
9987   \LWR@getmynexttoken%
9988 }
```

\LWR@HTMLhline The definition of \hline depends on whether tabls has been loaded. If so, optional space below the line may be specified, but will be ignored.

```
9989 \AtBeginDocument{
9990
9991 \@ifpackageloaded{lwarp-tables}
9992 {
9993   \newcommand*{\LWR@HTMLhline}[1][]{%
9994     \ifbool{FormatWP}{%
9995       {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9996       {\defaddtocounter{\LWR@hlines}{1}}%
9997       \LWR@getmynexttoken}%
9998 }
9999 {
10000   \newcommand*{\LWR@HTMLhline}{%
10001     \ifbool{FormatWP}{%
10002       {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
10003       {\defaddtocounter{\LWR@hlines}{1}}%
10004       \LWR@getmynexttoken}%
10005 }
10006
10007 }% AtBeginDocument
```

```
\LWR@HTMLcline {<columns>}

10008 \NewDocumentCommand{\LWR@HTMLcline}{m}%
10009     {\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.

```
10010 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10011     \ifbool{warpingprint}{#1}{}%
10012     \LWR@getmynexttoken%
10013 }
```

\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**.

```
10014 \AtBeginDocument{%
10015 \@ifundefined{NoAutoSpacing}%
10016 {%
10017     no babel-french%
10018 }%
10019 {%
10020     yes babel-french%
10021     \newcommand*{\LWR@nullifyNoAutoSpacing}{}%
10022     \renewcommand*{\NoAutoSpacing}{}%
10023     \renewcommand*{\LWR@FBcancel}{}%
10024 }%
10025 }%
10026 }% AtBeginDocument
```

Env tabular <direction> [<vertposition>] {<colspeсs>}

The <direction> is from **plexit** for Japanese documents, and is ignored.

```
10027 \StartDefiningTabulars
10028
10029 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}%
10030 {%
10031     \LWR@traceinfo{\LWR@HTML@@tabular started}%
```

### ⚠ <table> inside <span>

In **LATEX**, 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.

---

```
10032 \LWR@spanwarnformat{tabular}%
10033 \addtocounter{\LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
10034 \boolfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
10035 \defcounter{\LWR@hlines}{0}%
10036 \defcounter{\LWR@hdashedlines}{0}%
10037 \boolfalse{\LWR@doingtbrule}%
10038 \boolfalse{\LWR@doingscmidrule}%
```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```
10039 \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
10040 \boolfalse{\LWR@exittingtabular}%
10041 \boolfalse{\LWR@tabularmutemods}%
```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```
10042 \boolfalse{\LWR@usedmultirow}%
10043 \boolfalse{\LWR@foundmrowcell}%

10044 \renewcommand*{\LWR@multicoltext}{}%
```

Create the table tag:

```
10045 \booltrue{\LWR@intabularmetadata}%
10046 \LWR@traceinfo{\LWR@tabular: About to \LWR@forecenewpage.}%
10047 \LWR@forecenewpage
10048 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
10049 \LWR@parsetablecols{\#3}%
```

Table col spec is: `\LWR@tablecols` which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
10050 \LWR@stoppars%
```

Track column #:

```
10051 \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10052 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
10053 \LWR@clearmidrules%
```

\\" becomes a macro to end the table row:

```
10054 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

\warpprintonly inside a tabular must grab the next token.

```
10055 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly} %
```

The following adjust for colortbl.

```
10056 \LetLtxMacro{\arrayrulecolor}{\arrayrulecolor\nexttoken}%
10057 \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolor\nexttoken}%
10058 \def\LWR@columnHTMLcolor{}%
10059 \def\LWR@rowHTMLcolor{}%
10060 \def\LWR@cellHTMLcolor{}%
10061 \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.

```
10062 \ifdefvoid{\LWR@ruleHTMLcolor}{%
10063   {\edef\LWR@vertruleHTMLcolor{black}}%
10064   {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}}%
```

Tracking the depth of cell color <div>s:

```
10065 \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 tabls package.

```
10066 \LWR@traceinfo{LWR@@HTML@tabular: redefining macros}%
10067 \LetLtxMacro{\noalign}{\LWR@tabularnoalign}%
10068 \LetLtxMacro{\hline}{\LWR@HTMLhline}%
10069 \LetLtxMacro{\cline}{\LWR@HTMLcline}%

10070 \DeclareDocumentCommand{\hdashline}{o}{%
10071   \ifbool{FormatWP}{%
10072     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10073     {\defaddtocounter{LWR@hdashedlines}{1}}%
10074   \LWR@getmynexttoken%
10075 }%
```

```

10076  \DeclareDocumentCommand{\cdashline}{m}{%
10077    \LWR@docdashline{##1}\LWR@getmynexttoken%
10078  }%

10079  \DeclareDocumentCommand{\firstdashline}{o}{%
10080    \ifbool{FormatWP}{%
10081      \LWR@docdashline{1-\arabic{LWR@tabletotalTeXcols}}%
10082      {\defaddtocounter{LWR@hdashedlines}{1}}%
10083      \LWR@getmynexttoken%
10084    }%
10085  \DeclareDocumentCommand{\lastdashline}{o}{%
10086    \ifbool{FormatWP}{%
10087      \LWR@docdashline{1-\arabic{LWR@tabletotalTeXcols}}%
10088      {\defaddtocounter{LWR@hdashedlines}{1}}%
10089      \LWR@getmynexttoken%
10090    }%

```

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.

```

10091  \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10092  \renewcommand*\mrowcell{%
10093    \LWR@maybenewtablerow%
10094    \LWR@tabularleftedge%
10095    \booltrue{\LWR@skippingmrowcell}%
10096    \booltrue{\LWR@foundmrowcell}%
10097  }%
10098  \renewcommand*\mcolrowcell{%
10099    \LWR@maybenewtablerow%
10100    \booltrue{\LWR@skippingmcolrowcell}%
10101    \booltrue{\LWR@foundmrowcell}%
10102  }%
10103  \LetLtxMacro\caption\LWR@longtabledatacaptiontag%

```

Reset for new processing:

```

10104  \boolfalse{\LWR@tableparcell}%
10105  \boolfalse{\LWR@skippingmrowcell}%
10106  \boolfalse{\LWR@skippingmcolrowcell}%
10107  \boolfalse{\LWR@skipatbang}%
10108  \boolfalse{\LWR@emptyatbang}%

```

Set & for its special meaning inside the tabular:

```

10109  \StartDefiningTabulars%
10110  \protected\gdef&{\LWR@tabularampersand}%

```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

10111  \booltrue{\LWR@forceminipagefullwidth}%

```

Nest one level deeper of tabular paragraph handling:

```
10112     \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```
10113     \LWR@traceinfo{LWR@@HTML@tabular: about to LWR@getmynexttoken}%
10114     \LWR@getmynexttoken%
10115 }%
```

Ending the environment:

```
10116 \newcommand*{\LWR@HTML@endtabular}%
10117 {%
10118     \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```
10119     \addtocounter{LWR@tabularpardepth}{-1}%
10120     \ifboolexpr{%
10121         test {%
10122             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{%
10123                 {\value{LWR@tabletotalLaTeXcols}}%
10124             } or %
10125             (%
10126                 \bool{LWR@intabularmetadata} and%
10127                 not \bool{LWR@tabularcelladded} and%
10128                 test {%
10129                     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10130                         {\value{LWR@tabletotalLaTeXcols}}%
10131                 }%
10132             )%
10133         }%
10134         {%
10135             \LWR@tabularfinishrow%
10136         }%
10137         {%
10138             \LWR@closetabledatamax%
10139         }%
10140     \LWR@htmlblocktag{/tr}%
10141 }
```

xcolor row color support:

```
10141     \@rowc@lors%
10142     \LWR@htmlblocktag{/table}%
10143     \boolfalse{LWR@intabularmetadata}%
10144     \addtocounter{LWR@tabulardepth}{-1}%
10145     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10146         \protected\gdef&{\LWR@origampmacro}%
10147     }
```

Unnest one level of tabular:

```
10144     \addtocounter{LWR@tabulardepth}{-1}%
10145     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10146         \protected\gdef&{\LWR@origampmacro}%
10147     }
```

Restore & to its usual meaning:

```
10145     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10146         \protected\gdef&{\LWR@origampmacro}%
10147     }
```

```
10147      \StopDefiningTabulars%
10148  }{ }%
```

Error if used `\multirow` or `\multicolumn` without using `\mrowcell` or `\mcolrowcell`.

```
10149  \ifbool{LWR@usedmultirow}{%
10150    \ifbool{LWR@foundmrowcell}{%
10151      {\relax}%
10152      {%
10153        \PackageError{lwarp}{%
10154          {%
10155            When using \protect\multirow, \protect\multicolumn, \MessageBreak
10156            or the bigdelim package, \MessageBreak
10157            place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10158            in empty cells which are to be skipped.\MessageBreak
10159            See the Lwarp package documentation:\MessageBreak
10160            "Special cases and limitations" -> "Tabular"
10161          }%
10162          {%
10163            See the Lwarp package documentation:\MessageBreak
10164            "Special cases and limitations" -> "Tabular".
10165          }%
10166        }%
10167      }{ }%
10168      \LWR@traceinfo{LWR@HTML@endtabular finished}%
10169  }%
10170
10171 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}%
10172
10173 \StopDefiningTabulars
```

`siunitx` may redefine `tabular`, so set the following later:

```
10174 \AtBeginDocument{%
10175   \LetLtxMacro{\LWR@origendtabular}{\endtabular}
10176   \csletcs{\LWR@origendtabular*}{\endtabular*}%
10177   \LWR@formatted{@tabular}%
10178   \LWR@formatted{endtabular}%
10179   \LWR@formatted{endtabular*}%
10180 }%
10181 \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 15 shows the data structures related to cross-referencing.

**for HTML output:** 10182 \begin{warpHTML}

## 76.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```
10183 \def\@currentlabelname{\linkhomename}%
```

\LWR@stripperiod {<text>} [<.>]

Removes a trailing period.

```
10184 \def\LWR@stripperiod#1.\ltx@empty#2@nil{#1}%
```

\LWR@setlatestname {<object name>}

Removes \label, strips any final period, and remembers the result.

```
10185 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove \label and other commands from the name, the strip any final period. See `gettitlestring`.

```
10186 \GetTitleStringExpand{#1}%
10187 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
10188 \edef\@currentlabelname{%
10189   \expandafter\LWR@stripperiod\@currentlabelname%
10190   \ltx@empty.\ltx@empty@nil%
10191 }%
10192 }
```

## 76.2 New lwarp 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>}@lwarp}{{<section name>}{{<filename>}}
{<limagedepth>}{{<imagenum>}}}
```

Table 15: Cross-referencing data structures

Original L <sup>A</sup> T <sub>E</sub> X:	(print and HTML)
<b>\refstepcounter:</b> Steps the counter and sets \currentlabel.	
<b>\currentlabel:</b> \p@<ctr>\the<ctr> Updated by \refstepcounter.	
<b>\label:</b> Writes to the .aux file: \newlabel{<label>}{{\currentlabel}{\thepage}}	
<b>\newlabel:</b> When the .aux file is read, sets \r@<label>.	
<b>\r@&lt;label&gt;:</b> Set to: {{\currentlabel}{\thepage}}	
<b>\ref:</b> Returns the first part of \r@<label>.	
<b>\pageref:</b> Returns the second part of \r@<label>.	
Added by l warp:	(HTML only)
<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.	
<b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@<label>@l warp.	
<b>\r@&lt;label&gt;@l warp:</b> Set to {{section_name}{file_name}{depth}{number}}: \LWR@nameref: The section or object name for this label. \LWR@currentautosecpageref: The LWR@currentautosecpage for this label. \LWR@htmlfileref: The filenumber or name for this label. \LWR@lateximagedepthref: The lateximagedepth for this label. \LWR@lateximagenumberref: The lateximagenumber for this label.	
<b>\nameref:</b> Emulated from hyperref for l warp. See section 76.4.	
<b>\ref and \nameref:</b> Adds HTML tags. See section 76.4.	
Added by amsmath:	(print and HTML)
<b>\label:</b> Execution is delayed until the math environment is completed.	
<b>\ltx@label:</b> L <sup>A</sup> T <sub>E</sub> X \label, (HTML: patched by l warp,) later patched by cleveref.	
Added by cleveref:	(print and HTML)
<b>\refstepcounter:</b> Added: sets \cref@currentlabel.	
<b>\cref@currentlabel:</b> (<type>=<ctr> unless an alias is used): [<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>} Also see section 60.4 for use with footnotes.	
<b>\label:</b> Writes to the .aux file: \newlabel{<label>@\cref}{{\cref@currentlabel}{\thepage}}	
<b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@<label>@\cref.	
<b>\r@&lt;label&gt;@\cref:</b> Set to: {{\cref@currentlabel}{\thepage}}	
<b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.	
<b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for references to this counter type.	
Additionally patched by l warp:	(HTML only)
<b>\cref, etc.:</b> Modified for l warp. See section 200.	
<b>\label inside math:</b> See section 83.7.1.	
<b>Footnotes:</b> See \noteentry in section 60.4.	

See:

<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 l warp references. The regular reference will cause the warning.

```
10193 \def\LWR@setref#1#2#3{%
10194   \ifx#1\relax%
10195     ??%
10196   \else%
10197     \expandafter#2#1%
10198   \fi}
```

\LWR@nameref {*label*} Returns the section name for this label:

```
10199 \newcommand*{\LWR@nameref}[1]{%
10200   \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@firstoffive{#1}%
10201 }
```

\LWR@currentautosecpageref {*label*} Returns the \LWR@currentautosecpage for this label:

```
10202 \newcommand*{\LWR@currentautosecpageref}[1]{%
10203   \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@secondoffive{#1}%
10204 }
```

\LWR@htmlfileref {*label*} Returns the file number or name for this label:

```
10205 \newcommand*{\LWR@htmlfileref}[1]{%
10206   \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@thirdoffive{#1}%
10207 }
```

\LWR@lateximagedepthref {*label*} Returns the \lateximagedepth for this label:

```
10208 \newcommand*{\LWR@lateximagedepthref}[1]{%
10209   \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@fourthoffive{#1}%
10210 }
```

\LWR@lateximagenumberref {*label*} Returns the \lateximagenumber for this label:

```
10211 \newcommand*{\LWR@lateximagenumberref}[1]{%
10212   \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@fifthoffive{#1}%
10213 }
```

\LWR@write@lwarplabel {*label*} Sanitize the name and then creates the label:

```
10214 \newcommand*{\LWR@write@lwarplabel}[1]{%
10215   \LWR@traceinfo[\LWR@write@lwarplabel !#1!]%
```

```

10216 \LWR@setlatestname{\@currentlabelname}%
10217     \@bsphack%
10218     \protected@write\@auxout{}{%
10219         {%
10220             \string\newlabel{\#1@lwarp}{%
10221                 {\@currentlabelname}%
10222                 {\the\LWR@currentautosecpage}%
10223                 {%
10224                     \ifbool{FileSectionNames}%
10225                         {\LWR@thisfilename}%
10226                         {\arabic{\LWR@htmlfilenumber}}%
10227                     }%
10228                     {\arabic{\LWR@lateximagedepth}}%
10229                     {\arabic{\LWR@lateximagenum}}%
10230                 }%
10231             }%
10232         \@esphack%
10233 }

```

### 76.3 Labels

\LWR@label@subcreatetag Creates the tag from \LWR@sanitized.

```

10234 \newcommand*{\LWR@label@subcreatetag}{%
10235     \LWR@htmlltag{a \LWR@print@mbox{id=\textquotedbl\textquotedbl}\LWR@sanitized\textquotedbl\textquotedbl}%
10236     \LWR@htmlltag{/a}%
10237 }

```

\LWR@label@inmathcomment

```

10238 \newcommand*{\LWR@Label@inmathcomment}{%
10239     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
10240         {%

```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a \mbox field:

```
10241     \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10242     \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.)

```

10243     \LWR@htmllclosecomment%
10244     \LWR@label@subcreatetag%
10245     \LWR@htmlopencomment%
10246     }% mbox
10247     }% mathjax

```

```

10248      {%
10249          \LWR@label@subcreatetag%
10250      }%
10251 }

```

\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.

```

10252 \newcommand*{\LWR@Label@createtag}[1]{%
10253     \LWR@traceinfo{\LWR@label@createtag !#1!}%

```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```

10254     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
10255     {}%
10256     {% not lateximage

```

If not doing a lateximage, create an HTML ID tag.

```

10257         \LWR@sanitize{#1}%
10258         \ifbool{\LWR@insidemathcomment}{%
10259             {% inside HTML math comment
10260                 \LWR@label@inmathcomment%
10261             }%
10262             {% not inside HTML math comment
10263                 \ifbool{\LWR@doingstartpars}{%
10264                     {% pars allowed
10265                         \ifbool{\LWR@doingapar}{%
10266                             {% par started
10267                                 \LWR@label@subcreatetag%
10268                             }%
10269                             {% par not started
10270                                 \LWR@stoppars%
10271                                 \LWR@label@subcreatetag%
10272                                 \LWR@startpars%
10273                             }%
10274                             {% pars allowed
10275                             }%
10276                             {% pars not allowed
10277                                 \LWR@label@subcreatetag%
10278                             }%
10279                         }%
10280                     }%

```

\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 `\teximage`, including `svg` math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a `\teximage`.

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`.

```
10281 \newcommand*{\LWR@new@label}[1]{%
10282     \LWR@traceinfo{\LWR@new@label: starting}%
10283     \LWR@traceinfo{\LWR@new@label: !#1!}%
10284 % \@bsphack%
```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by `cleveref`:

```
10285 \LWR@orig@label{#1}%
```

Create a special label which holds the section number, section name, `LWR@htmlfilename`, `LWR@teximagedepth`, and `LWR@teximagenum`:

```
10286 \LWR@traceinfo{%
10287     LWR@new@label: filesectionnames is %
10288     \ifbool{FileSectionNames}{true}{false}%
10289 }%
10290 \LWR@traceinfo{%
10291     LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10292 }%
10293 \LWR@traceinfo{%
10294     LWR@new@label: LWR@htmlfilename is \arabic{LWR@htmlfilename}%
10295 }%
10296 \LWR@write@lwarplabel{#1}%
10297 \LWR@label@createtag{#1}%
10298 % \@esphack%
10299 \LWR@traceinfo{\LWR@new@label: done}%
10300 }
```

## 76.4 References

```
\LWR@addlinktitle
```

```
10301 \newcommand*{\LWR@addlinktitle}{%
10302     \ifdefvoid{\LWR@ThisAltText}{}{ % space
10303         title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
10304         \gdef\LWR@ThisAltText{}%
10305     }%
10306 }
```

`\LWR@startref {<label>}` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

---

```

10307 \newcommand*\LWR@startref}[1]
10308 {%
10309     \LWR@sanitize{#1}%
10310     \LWR@traceinfo{\LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

10311     \LWR@htmlltag{a href=\textquotedbl%
10312         \LWR@traceinfo{\LWR@startref B}%
10313         \LWR@print@mbox{\LWR@htmllrefsectionfilename{#1}}%
10314         \LWR@traceinfo{\LWR@startref C}%
10315         \LWR@origpound%

```

Create the destination id:

See if `\LWR@lateximagedepth` is unknown:

```

10316     \LWR@traceinfo{\LWR@startref D: !#1!}%
10317     \ifcsundef{r@#1@lwarp}%

```

“??” if `\LWR@lateximagedepth` is unknown, so create a link with an unknown destination:

```

10318     {%
10319         \LWR@traceinfo{\LWR@startref D0: ??}%
10320         ??%
10321     }%

```

If `\LWR@lateximagedepth` is known. Use a `\textrimage` if the depth is greater than zero, or a regular link otherwise:

```

10322     {%
10323         \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}{%
10324             {%
10325                 \textrimage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10326             }%
10327             {%
10328                 \LWR@traceinfo{\LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

10329             \LWR@print@mbox{\LWR@sanitized}%
10330         }%
10331     }%
10332     \LWR@traceinfo{\LWR@startref E}%

```

Closing quote:

```

10333     \textquotedbl%

```

Maybe add a title:

```

10334     \LWR@addlinktitle%
10335     }%
10336     \LWR@traceinfo{\LWR@startref F}%
10337 }

```

\LWR@subnewref {*label*} {*label or sub@label*}

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

10338 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10339     \LWR@traceinfo{\LWR@subnewref #1 #2}%
10340     \LWR@startref{#1}%
10341     \LWR@print@ref{#2}%
10342     \LWR@htmltag{/a}%
10343 }

```

\ref \* {*label*} \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 \* {*label*} 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:

```
10344 \LWR@absorbstar{ref}%
```

The HTML version:

```

10345 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10346     \LWR@traceinfo{\LWR@HTML@ref !#2!}%
10347     \IfBooleanTF{#1}%
10348         {\LWR@print@ref{#2}}%
10349         {\LWR@subnewref{#2}{#2}}%
10350 }
10351
10352 \LWR@formatted{ref}

```

\LWR@refwithsection

```

10353 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10354     \LWR@traceinfo{\LWR@refwithsection !#2!}%
10355     \IfBooleanTF{#1}%
10356         {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%
10357         {%
10358             \LWR@startref{#2}%
10359             \LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}%
10360             \LWR@htmltag{/a}%
10361         }%
10362 }

```

For MATHJAX:

```
10363 \CustomizeMathJax{\let\LWRref\ref}
10364 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}
```

\pagerefPageFor Text for page references.

```
10365 \newcommand*{\pagerefPageFor}[see ]
```

\pageref \* {*<label>*} Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```
10366 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10367   \IfBooleanTF{#1}{%
10368     {(\pagerefPageFor\LWR@print@ref{#2})}%
10369     {(\cpageref{#2})}%
10370 }
```

\nameref {*<label>*}

```
10371 \newrobustcmd*{\nameref}[1]{%
10372   \LWR@traceinfo{nameref}%
10373   \LWR@startref{#1}%
10374   \LWR@traceinfo{nameref B}%
10375   \LWR@nameref{#1}%
10376   \LWR@traceinfo{nameref C}%
10377   \LWR@htmlltag{/a}%
10378   \LWR@traceinfo{nameref: done}%
10379 }
```

\Nameref {*<label>*} In print, adds the page number. In HTML, does not.

```
10380 \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.

```
10381 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10382 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support backref.

```
10383 \AtBeginDocument{%
10384     \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
10385 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
10386 \newcommand*{\LWR@linkcatcodes}{%
10387     \catcode`\#=12%
10388     \catcode`\%=12%
10389     \catcode`\&=12%
10390     \catcode`\~=12%
10391     \catcode`\_=12%
```

For `babel-french`:

```
10392     \LWR@hook@processingtags%
10393 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10394 \newcommand*{\LWR@linkmediacatcodes}{%
10395     \catcode`\#=12%
10396     \catcode`\%=12%
10397 %     \catcode`\&=12% left alone for splitting flash variables
10398     \catcode`\~=12%
10399     \catcode`\_=12%
```

For `babel-french`:

```
10400     \LWR@hook@processingtags%
10401 }
```

`\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.

```
10402 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10403     \LWR@traceinfo{\LWR@subhyperref !#1!}%
10404     \LWR@sanitize{#1}%
10405     \LWR@htmlltag{%
10406         a href=\textquotedbl\text{\LWR@sanitized}\textquotedbl\ % space
10407         \LWR@addlinktitle % space
10408         target=\textquotedbl\_\{}blank\textquotedbl\ % space
10409     }%
10410 }
```

---

```
\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.

```
10411 \newcommand{\LWR@subhyperreftext}[1]{%
10412     #1%
10413     \LWR@htmlltag{/a}%
10414     \LWR@ensuredoingapar%
10415 }
```

```
\LWR@subhyperrefclass {<URL>} {<text>} {<htmlclass>}
```

```
10416 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10417     \LWR@htmlltag{%
10418         a % space
10419         href=\textquotedbl\begin{group}\@sanitize#1\endgroup\textquotedbl\ % space
10420         class=\textquotedbl#3\textquotedbl\ % space
10421         \LWR@addlinktitle % space
10422     }\LWR@orignewline%
10423     #2%
10424     \LWR@htmlltag{/a}%
10425     \LWR@ensuredoingapar%
10426 }
```

```
\LWR@href [<options>] {<URL>} {<text>}
```

Create a link with accompanying text:

```
10427 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10428     \LWR@ensuredoingapar%
10429     \LWR@subhyperref{#2}%
10430     \endgroup% restore catcodes
10431     \LWR@subhyperreftext%
10432 }
10433
10434 \newrobustcmd*\LWR@href{%
10435     \begin{group}%
10436     \LWR@linkcatcodes%
10437     \LWR@hrefb%
10438 }
```

```
\LWR@nolinkurl {<URL>}
```

Print the name of the link without creating the link:

```
10439 \newcommand*\LWR@nolinkurlb[1]{%
10440     \LWR@ensuredoingapar%
10441     \def\LWR@templink{\#1}%
10442     \onelevel@sanitize\LWR@templink%
10443     \LWR@templink%
10444     \endgroup%
10445 }
```

```

10446
10447 \newrobustcmd*{\LWR@nolinkurl}{%
10448     \begingroup%
10449     \LWR@linkcatcodes%
10450     \LWR@nolinkurlb%
10451 }

```

\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 l warp-url.

```

10452 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10453     \LWR@ensuredoingapar%
10454     \def\LWR@templink{\#1}%
10455     \onelevel@sanitize\LWR@templink%
10456     \LWR@href{\LWR@templink}{\LWR@templink}%
10457     \endgroup%
10458 }
10459
10460 \newrobustcmd*{\LWR@url}{%
10461     \begingroup%
10462     \LWR@linkcatcodes%
10463     \LWR@urlb%
10464 }

```

\LWR@subinlineimage {{<1:<alt> tag>}} {{<2:<class>}} {{<3:<filename>}} {{<4:<extension>}} {{<5:<css style>}} {{<6:<aria role>}}}

Factored from lateximage.

```

10465 \newcommand*{\LWR@subinlineimage}[6]{%
10466     \ifblank{#6}{%
10467         {\renewcommand*{\LWR@tempone}{}}
10468         {\renewcommand*{\LWR@tempone}{role="#6"\LWR@indentHTML}}
10469     \ifblank{\#1}{%
10470         {%
10471             \LWR@htmltag{img \LWR@indentHTML
10472                 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10473                 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10474                 \LWR@tempone
10475                 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10476                 class=\textquotedbl#2\textquotedbl \LWR@orignewline
10477             }%
10478         }%
10479     }%
10480     \LWR@htmltag{img \LWR@indentHTML
10481         src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10482         alt=\textquotedbl#1\textquotedbl \LWR@indentHTML
10483         \LWR@tempone
10484         style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10485         class=\textquotedbl#2\textquotedbl \LWR@orignewline
10486     }%
10487 }

```

```
10486      }%
10487      }%
10488 }

10489 \end{warpHTML}
```

Table 16: 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 L<sup>A</sup>T<sub>E</sub>X 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 16 shows the data structure associated with each <type> of float.

### 77.1 Float environment

**for HTML output**: 10490 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>]      Begins a \newfloat environment.

10491 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a <span>:

10492      \LWR@spanwarninvalid{float}%

```
10493 \ifbool{FormatWP}{\newline}{}
10494 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
10495 \addtocounter{LWR@thisautoid}{1}
10496 \booltrue{LWR@freezethisautoid}

10497 \begingroup%
```

Settings while inside the environment:

```
10498 \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.

```
10499 \LWR@htmlltag{%
10500     figure id=\textquotedbl%
10501         \LWR@print@mbox{auto\id-\arabic{LWR@thisautoid}}%
10502         \textquotedbl\ % space
10503         class=\textquotedbl#1 \nameuse{LWR@floatstyle@\#1}\textquotedbl%
10504     }%
10505 \ifbool{FormatWP}{%
10506     \LWR@orignewline%
10507     \LWR@BlockClassWP{}{}{wp\#1}%
10508 }{}%
```

Update the caption type:

```
10509 \renewcommand*{\@capttype}{\#1}%
```

Mark the float for a word processor conversion:

```
10510 \LWR@startpars%
10511 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10512     === begin #1 ===
10514
10515 }{}%
```

After each **\LWR@floatbegin**, look for **\centering**, etc next, using **\LWR@floatalignment**.

```
10516 }
```

For **koma-script**. The following does not work for tables.

```
10517 \AtBeginDocument{%
10518
10519 \@ifpackageloaded{tocbasic}{%
10520
```

```

10521 \appto\figure@atbegin{%
10522     \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10523 }
10524
10525 }{ }% tocbasic
10526
10527 }% AtBeginDocument

```

\@xfloat Support packages which create floats directly.  
 \@xdblfloat Look for \centering, etc using \LWR@floatalignment.

```

10528 \AtBeginDocument{
10529     \def\@xfloat #1[#2]{%
10530         \LWR@floatbegin{#1}[#2]
10531         \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10532     }
10533     \def\@xdblfloat #1[#2]{%
10534         \LWR@floatbegin{#1}[#2]
10535         \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
10536     }
10537 }

```

\LWR@floatend Ends a \newfloat environment.

```
10538 \newcommand*\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
10539 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10540 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10541     === end ===
10543
10544 }{ }%
10545 \LWR@stoppars%

```

Close an HTML figure tag:

```

10546 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
10547 \LWR@htmlelementend{figure}%
10548 \endgroup%
10549 \boolfalse{\LWR@freezethisauto}%
10550 \LWR@startpars%
10551 \ifbool{FormatWP}{\newline}{}
10552 }

```

\end@float Support packages which create floats directly.  
 \end@dblfloat

---

```

10553 \AtBeginDocument{
10554     \let\end@float\LWR@floatend
10555     \let\end@dblfloat\LWR@floatend
10556 }

```

## 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.

```
10557 \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.

```
10558 \newcounter{LWR@thisautoidWP}
```

Bool LWR@freezethisautoid Prevents multiple increments of \LWR@thisautoid inside a float.

```

10559 \newbool{LWR@freezethisautoid}
10560 \boolfalse{LWR@freezethisautoid}

```

\LWR@forcenewautoidanchor Adds a new <autoid> anchor.

```

10561 \newcommand*{\LWR@forcenewautoidanchor}{%
10562     \addtocounter{LWR@thisautoid}{1}%
10563     \ifbool{LWR@doingapar}{%
10564         {%
10565             \LWR@htmltag{a id=\textquotedbl%}
10566                 \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%}
10567                 \textquotedbl\ }% space
10568             \LWR@htmltag{/a }%
10569         }%
10570     {%
10571         \LWR@stoppars%
10572         \LWR@htmltag{a id=\textquotedbl%
10573             \LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}%}
10574             \textquotedbl\ }% space
10575         \LWR@htmltag{/a }%
10576         \LWR@startpars%
10577     }%
10578 }

```

\LWR@newautoidanchor Sometimes adds a new <autoid> anchor.

```

10579 \newcommand*{\LWR@newautoidanchor}{%
10580     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
10581         {}%
10582         {\ifbool{LWR@freezethisautoid}{\LWR@forcenewautoidanchor}{}}%
10583     }

```

\@capttype Remembers which float type is in use.

```
10584 \newcommand*{\@capttype}{}%
```

\LWR@floatalignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
10585 \newcommand*{\LWR@floatalignmentname}{}%
```

\LWR@floatalignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
10586 \newcommand*{\LWR@floatalignment}{%
10587   \ifdstrequal{\LWR@mynexttoken}{\centering}{%
10588     \center%
10589     \renewcommand*{\LWR@floatalignmentname}{center}%
10590   }%
10591   \ifdstrequal{\LWR@mynexttoken}{\raggedright}{%
10592     \flushleft%
10593     \renewcommand*{\LWR@floatalignmentname}{flushleft}%
10594   }%
10595   \ifdstrequal{\LWR@mynexttoken}{\raggedleft}{%
10596     \flushright%
10597     \renewcommand*{\LWR@floatalignmentname}{flushright}%
10598   }%
10599 }
```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```
10600 \newcommand*{\LWR@endfloatalignment}{%
10601   \ifdefvoid{\LWR@floatalignmentname}{%
10602     {}%
10603     {\@nameuse{end\LWR@floatalignmentname}}%
10604     \renewcommand*{\LWR@floatalignmentname}{}%
10605 }
```

### 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.

```
10606 \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.

---

```

10607 \AtBeginDocument{
10608     \@ifpackageloaded{caption}{}{
10609         \let\LWR@orig@caption\@caption%
10610         \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a <span>:

```

10611             \LWR@spanwarnformat{caption}%
10612             \LWR@setlatestname{#2}%
10613             \LWR@orig@caption{#1}[{#2}]% also takes third argument
10614         }%
10615         \renewcommand{\@makecaption}[2]{%
10616             \LWR@traceinfo{@makecaption}%
10617             \caption@begin{\@capttype}%
10618             \LWR@isolate{#1}%
10619             \edef\LWR@tempone{#1}%
10620             \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
10621             \LWR@isolate{#2}%
10622             \caption@end%
10623             \LWR@traceinfo{@makecaption: done}%
10624         }%
10625     }%
10626 }
10627 }
```

## 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.

```

10628 \newcounter{\LWR@nextautoid}
10629 \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.

```

10630 \newcommand*{\LWRsetnextfloat}[2]{%
10631     \setcounter{LWR@nextautopage}{#1}%
10632     \setcounter{LWR@nextautoid}{#2}%
10633 }

```

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.

```

10634 \newenvironment*{\LWR@figcaption}{%
10635     \ifbool{FormatWP}{%
10636         \BlockClass[font-style:italic]{figurecaption}%
10637     }{%
10638         \BlockClass{figurecaption}%
10639     }%
10640 }

```

Inside the caption, temporarily prevent underfull \hbox warnings, such as when the caption contains a math SVG image.

```

10641         \hbadness=10000\relax%
10642     }%
10643 {\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.

```

10644 \newcommand*{\LWR@HTML@caption@begin}[1]{%
10645 {%
10646     \LWR@traceinfo{\LWR@HTML@caption@begin}%

```

Keep `par` and `minipage` changes local:

```
10647 \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```

10648 \RenewDocumentEnvironment{minipage}{O{t} O{t} m}{}{%
10649 \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{{\##5}}%

```

Enclose the original caption code inside an HTML tag:

```

10650 \LWR@figcaption%
10651 \LWR@traceinfo{\LWR@HTML@caption@begin: about to \LWR@origcaption@begin}%
10652 \LWR@print@caption@begin{#1}%
10653 \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
10654 }

```

---

\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.

```

10655 \newcommand*\LWR@HTML@caption@end{%
10656 {%
10657     \LWR@traceinfo{\LWR@HTML@caption@end}%
10658     \LWR@print@caption@end%

```

Closing tag:

```

10659     \endLWR@figcaption%
10660     \endgroup%
10661     % \leavevmode% avoid bad space factor (0) error
10662     \LWR@traceinfo{\LWR@HTML@caption@end: done}%
10663 }

```

\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.

```

10664 \AtBeginDocument{%
10665     \providecommand{\caption@begin}[1]{}
10666     \LWR@formatted{caption@begin}
10667
10668     \providecommand{\caption@end}{}
10669     \LWR@formatted{caption@end}
10670 }

```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an  
 HTML anchor.

```

10671 \AtBeginDocument{%
10672 \@ifpackageloaded{caption}{%
10673     \let\LWR@origcaptionlistentry\captionlistentry
10674
10675     \renewcommand*\captionlistentry{%
10676         \LWR@ensuredoingapar%
10677         \LWR@origcaptionlistentry%
10678     }
10679
10680     \def\LWR@LTcaptionlistentry{%
10681         \LWR@ensuredoingapar%
10682         \LWR@forcenewautoidanchor%
10683         \bgroup%
10684             \@ifstar{\egroup\LWR@LT@captionlistentry}{%
10685                 \egroup\LWR@LT@captionlistentry}%
10686             }%
10687     \def\LWR@LT@captionlistentry#1{%
10688         \caption@listentry@\firstoftwo[\LTcaptype]{#1}%
10689     }%
10690 }% caption loaded

```

```

10691 {%
10692     \newcommand{\captionlistentry}[2][]{%
10693     \newcommand{\LWR@LT@captionlistentry}[2][]{%
10694 }
10695 }% 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

```

10696 \let\LWR@origaddcontentsline\addcontentsline
10697
10698 \renewcommand*{\addcontentsline}[3]{%
10699     \ifstreq{\#1}{toc}{}% not TOC

10700     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10701         {}%
10702         {\LWR@newautoidanchor}%

10703     \ifcsvvoid{\ext@#2}{\csdef{\ext@#2}{\#1}}{}%

10704     \addtocontents{\@nameuse{\ext@#2}}{%
10705         \protect\LWRsetnextfloat%
10706         {\arabic{LWR@currentautosecfloatpage}}%
10707         {\arabic{LWR@thisautoid}}}%
10708     }%
10709 }% not TOC
10710 \LWR@origaddcontentsline{\#1}{\#2}{\#3}%
10711 }

```

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.

```

10712 \RequirePackage{capt-of}
10713
10714 \AtBeginDocument{
10715     \let\LWR@origcaptionof\captionof
10716
10717     \renewcommand*{\captionof}{%
10718         \LWR@stopars%
10719         \LWR@origcaptionof%
10720     }
10721 }% AtBeginDocument

```

```
10722 \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:** 10723 \begin{warpHTML}

### 78.1 Reading and printing the TOC

\LWR@myshorttoc {\langle toc/lof/lot/sidetoc\rangle}

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.

```
10724 \newcommand*{\LWR@myshorttoc}[1]{%
10725   \LWR@traceinfo{\LWR@myshorttoc: #1}%
10726   \LWR@ensuredoingapar%
```

Only if the file exists:

```
10727   \IfFileExists{\jobname.#1}{%
10728     \LWR@traceinfo{\LWR@myshorttoc: loading}%

```

- ⚠ Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10729   \begingroup%
10730   \makeatletter%
```

Disable CJK xpinyin while generating the sidetoc.

```
10731   \LWR@disablepinyin%
```

Read in the TOC file:

```
10732   \@input{\jobname.#1}%
10733   \endgroup%
10734 }%
10735 {}%
```

```
10736 \LWR@traceinfo{LWR@myshorttoc: done}%
10737 }
```

\LWR@subtableofcontents {*<toc/lof/lot>*} {*<sectionstarname>*}

Places a TOC/LOF/LOT at the current position.

```
10738 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10739 \@ifundefined{chapter}%
10740     {\LWR@closeprevious{section}}%
10741     {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
10742 \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10743 \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10744 \LWR@htmlelementclass{nav}{#1}%
```

Create the actual list:

```
10745 \LWR@myshorttoc{#1}%
```

Close the nav:

```
10746 \LWR@htmlelementclassend{nav}{#1}%
10747 }
```

\@starttoc {*<ext>*}

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```
10748 \let\LWR@orig@starttoc@\starttoc
10749
10750 \renewcommand{\@starttoc}[1]{%
10751     \LWR@htmlelementclass{nav}{#1}%
10752     \LWR@orig@starttoc{#1}%
10753     \LWR@htmlelementclassend{nav}{#1}%
10754 }
```

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.)

```
10755 \newbool{LWR@copiedsidetoc}
10756 \boolfalse{LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. newfloat uses \listoffigures for all future float types.

```
10757 \AtBeginDocument{
10758
10759 \let\LWR@origtableofcontents\tableofcontents
10760
10761 \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:

```
10762     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10763
10764     === table of contents ===
10765
10766     }
10767     {
```

Copy the .toc file to .sidetoc for printing the sideroc. The original .toc file is renewed when \tableofcontents is finished.

```
10768     \ifbool{LWR@copiedsidetoc}{}{%
10769         \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10770         \booltrue{LWR@copiedsidetoc}%
10771     }%
10772     \LWR@printpendingfootnotes
10773     \LWR@origtableofcontents
10774     }
10775 }% \tableofcontents
10776
10777 }% AtBeginDocument
```

### \listoffigures

```
10778 \let\LWR@origlistoffigures\listoffigures
10779
10780 \renewcommand*\listoffigures{}{
10781     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10782
10783     === list of figures ===
10784
10785     }
10786     {
10787         \LWR@printpendingfootnotes
10788         \LWR@origlistoffigures
10789     }
10790 }
```

```
\listoftables
```

```

10791 \let\LWR@origlistoftables\listoftables
10792
10793 \renewcommand*\listoftables{%
10794     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{%
10795         === list of tables ===
10796     }%
10797     {%
10798         \LWR@printpendingfootnotes
10799         \LWR@origlistoftables
10800     }%
10801 }
10802 }%
10803 }
```

## 78.2 TOC commands

```
\LWR@listof {<type>} {<title>}
```

Emulate the `\listof` command from the `float` package (section 274). 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`.

```

10804 \NewDocumentCommand{\LWR@listof}{m +m}{%
10805     \Ifundefined{l@#1}{%
10806         \csdef{l@#1}##1{\hypertocfloat{1}{#1}{\nameuse{ext@#1}}{##1}{##2}}%
10807     }%
10808     \LWR@subtableofcontents{\nameuse{ext@#1}}{#2}%
10809     \expandafter\newwrite\cscname tf@\cscname ext@#1\endcscname\endcscname%
10810     \immediate\openout \cscname tf@\cscname ext@#1\endcscname\endcscname%
10811         \jobname.\nameuse{ext@#1}\relax%
10812 }
```

## 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 17, css may be used to format the sidetoc.

Table 17: CSS related to the sidetoc

- div.sidetoccontainer:** The entire sidetoc.
- div.sidetotitle:** The title.
- div.sidetoccontents:** The table of contents.

```
10813 \end{warpHTML}
```

**for HTML & PRINT:** 10814 \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.

```
10815 \newcounter{SideTOCDepth}
10816 \setcounter{SideTOCDepth}{1}
10817
10818 \AtEndDocument{%
10819   \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
10820     \PackageWarningNoLine{lwarp}%
10821     {%
10822       SideTOCDepth is less than FileDepth, \MessageBreak
10823       so some website pages may be inaccessible%
10824     }%
10825   }{}%
10826 }
```

\sidetocname Holds the default name for the sidetoc.

```
10827 \newcommand{\sidetocname}{Contents}

10828 \end{warpall}
```

**for HTML output:** 10829 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```
10830 \newcommand*{\LWR@sidetoc}{%
10831   \LWR@forcenewpage
10832   \LWR@stoppars
10833 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```
10834   \LWR@htmlelementclass{div}{sidetoccontainer}
10835   \LWR@htmlelementclass{nav}{sidetoc}
10836
10837   \setcounter{tocdepth}{\value{SideTOCDepth}}
10838 }
```

The title is placed into a <div> of class sidetoctitle, and may contain paragraphs.

```
10839   \begin{BlockClass}{sidetoctitle}
10840     \ifcvoid{\thetitle}{}{ \InlineClass{sidetocthetitle}{\thetitle}\par}
10841     \sidetocname
10842   \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccontents.

```
10843   \begin{BlockClass}{sidetoccontents}
10844     \LinkHome
```

---

```

10845
10846   \LWR@myshorttoc{sidetoc}
10847   \end{BlockClass}
10848   \LWR@htmlelementclassend{nav}{sidetoc}
10849   \LWR@htmlelementclassend{div}{sidetoccontainer}
10850 }
```

## 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:

```

10851 \newcommand*{\LWR@numberline}[1]{%
10852   \LWR@sectionnumber{#1}\quad%
10853 }
10854
10855 \LetLtxMacro\numberline\LWR@numberline
```

\LWR@maybetocdata Replaced by **tocdata**. Adds author name.

```
10856 \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

```

10857 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10858   \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}}%
```

Respond to **tocdepth**:

```

10859   \ifnumcomp{#1}{>}{\value{tocdepth}}{%
10860     {}%
10861     {}%
10862       \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.

```

10863      \LWR@subhyperrefclass{%
10864          \LWR@htmlrefsectionfilename{\BaseJobname-autopage-\#4}%
10865          \LWR@origpound\LWR@print@mbox{autosec-\#4}%
10866      }{\#3}{toc\#2}%

10867      \LWR@maybetocdata{%

10868      \LWR@stoppars{%
10869  }%
10870      \LWR@traceinfo{hypertoc done}%
10871 }

```

Ctr lofdepth TOC depth for figures.

```

10872 @ifclassloaded{memoir}{}{%
10873     \newcounter{lofdepth}%
10874     \setcounter{lofdepth}{1}%
10875 }

```

Ctr lotdepth TOC depth for tables.

```

10876 @ifclassloaded{memoir}{}{%
10877     \newcounter{lotdepth}%
10878     \setcounter{lotdepth}{1}%
10879 }

```

\hypertocfloat {\langle 1: depth \rangle} {\langle 2: type \rangle} {\langle 3: ext of parent \rangle} {\langle 4: caption \rangle} {\langle 5: page \rangle}

#1 is depth

#2 is figure, table, etc.

#3 is lof, lot, of the parent.

#4 the text of the caption

#5 page number

```
10880 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```

10881  @ifundefined{c@\#3depth}{%
10882      \newcounter{\#3depth}%
10883      \setcounter{\#3depth}{1}%
10884  }{%

```

Respond to `\ofdepth`, etc.:

```
10885      \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10886      \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}%
10887          {%
10888              \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.

```
10889          \LWR@subhyperrefclass{%
10890              \LWR@htmlrefsectionfilename{%
10891                  \BaseJobname-autopage-\arabic{\LWR@nextautopage}}%
10892              }%
10893              \LWR@origpound\LWR@print@mbox{autoid-\arabic{\LWR@nextautoid}}}}%
10894              {[#4]{toc#2}}%

10895          \LWR@maybetocdata{%

10896          \LWR@stoppars{%
10897              }%
10898              {}%
10899 }
```

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`.

```
10900 \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`.

```
10901 \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`.

```
10902 @ifundefined{chapter}
10903 {}
10904 {
10905 \DeclareDocumentCommand{\l@chapter}{m m}
10906     {\hypertoc{0}{chapter}{#1}{#2}}
10907 }
```

```
\l@section  {\langle name\rangle} {\langle page\rangle}

10908 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

```
\l@subsection  {\langle name\rangle} {\langle page\rangle}

10909 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection  {\langle name\rangle} {\langle page\rangle}

10910 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph  {\langle name\rangle} {\langle page\rangle}

10911 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@ subparagraph  {\langle name\rangle} {\langle page\rangle}

10912 \renewcommand{\l@ subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```
\l@figure  {\langle name\rangle} {\langle page\rangle}

10913 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

```
\l@table  {\langle name\rangle} {\langle page\rangle}

10914 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
10915 \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:** 10916 \begin{warpHTML}

```
10917 \newcounter{LWR@autoindex}
10918 \setcounter{LWR@autoindex}{0}
10919
10920 \newcounter{LWR@autoglossary}
10921 \setcounter{LWR@autoglossary}{0}
```

---

\IndexPageSeparator User-adjustable delimiter for page and range separators in the \*.ind files.  
 \IndexRangeSeparator

10922 \newcommand{\IndexPageSeparator}{, }  
 10923 \newcommand{\IndexRangeSeparator}{--}

Env theindex

10924 \@ifundefined{chapter}  
 10925 {\newcommand{\LWR@indexsection}[1]{\section\*{#1}}}  
 10926 {\newcommand{\LWR@indexsection}[1]{\chapter\*{#1}}}  
 10927  
 10928  
 10929 \AtBeginDocument{  
 10930  
 10931 \renewenvironment{theindex}{%  
 10932 \LWR@indexsection{\indexname} %  
 10933 \let\item\LWR@indexitem %  
 10934 \let\subitem\LWR@indexsubitem %  
 10935 \let\subsubitem\LWR@indexsubsubitem %  
 10936 }{}  
 10937  
 10938 }% AtBeginDocument

\LWR@indexitem [*index key*] The optional argument is added to support repeatindex.

10939 \newcommand{\LWR@indexitem}[1][@\empty]{  
 10940  
 10941 \InlineClass{indexitem}{\LWR@htmlcomment{}#1}%  
 10942 }

\LWR@indexsubitem

10943 \newcommand{\LWR@indexsubitem}{  
 10944  
 10945 \InlineClass{indexsubitem}{\LWR@htmlcomment{}%  
 10946 }}

\LWR@indexsubsubitem

10947 \newcommand{\LWR@indexsubsubitem}{  
 10948  
 10949 \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}%  
 10950 }}

\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.

10951 \NewDocumentCommand{\LWR@xindex@modifyentry}{>{\SplitArgument{1}{|}}m}{  
 10952 {\LWR@xindex@modifyentrysub#1}}

Handle left and right parenthesis range argument, or add a `hyperindexformat` clause.

```

10953 \newcommand*{\LWR@index@modifyentrysub}[2]{%
10954     \edef\tempone{\#1}%
10955     \edef\temptwo{\#2}%
10956     \IfValueTF{\temptwo}{%
10957         \ifx{\temptwo}{%
10958             \appto{\LWR@tempone{}{}}{%
10959             \else%
10960                 \appto{\LWR@tempone{}{}}{%
10961                     \hyperindexformat{\LWRleftbrace{%
10962                         \LWRbackslash{\temptwo}%
10963                         \LWRrightbrace{%
10964                         }%
10965                     }%
10966                     }%
10967                 }%
10968             \fi%
10969         }%
10970     }%
10971     {}%
10972 }

```

`\@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.

```

10973 \newbool{\LWR@index@tricked}
10974 \boolfalse{\LWR@index@tricked}
10975
10976 \def{\LWR@wrindex}{%
10977     \ifbool{\LWR@index}{%
10978         \ifbool{\LWR@index@tricked}{%
10979             \protected@write{\indexfile}{%
10980                 {\LWRpercent\space hyperpage\LWRrightbrace{%
10981                     \LWRpercent\space trick xindex to assume hyperref%
10982                 }%
10983             }%
10984             \global\booltrue{\LWR@index@tricked}%
10985         }%
10986         \LWR@index@modifyentry{\#1}%
10987     }%
10988     \def{\LWR@tempone}{%
10989     }%
10990     \addtocounter{\LWR@autoindex}{1}%
10991     \label{\LWRindex-\arabic{\LWR@autoindex}}%
10992     \protected@write{\indexfile}{%
10993         {\string\indexentry{\LWR@tempone}{\arabic{\LWR@autoindex}}}%
10994     }%
10995     \endgroup%
10996     \esphack%
10997 }
10998 \AtBeginDocument{%
10999 \let\@wrindex\LWR@wrindex

```

```
11000 }
```

\@wrglossary {*term*} Redefined to write the LWR@autoglossary counter instead of page.

```
11001 \def\@wrglossary#1{%
11002     \addtocounter{LWR@autoglossary}{1}%
11003     \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
11004     \protected@write\@glossaryfile{}{%
11005         {\string\glossaryentry{\#1}{\theLWR@autoglossary}}%
11006     \endgroup%
11007     \esphack%
11008 }
```

\LWR@indexnameref@anonref {*LWR@autoindex*}

Displays a reference link where there no \ref available.

```
11009 \newcommand*{\LWR@indexnameref@anonref}[1]{%
11010     \LWR@startref{LWRindex-\#1}%
11011     (*)%
11012     \LWR@htmlltag{/a}%
11013 }
```

\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.

```
11014 \newcommand*{\LWR@indexnameref@ref}[1]{%
11015     \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
11016     \ifdefvoid{\LWR@thisref}{}{%
11017         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11018         \ifdefvoid{\LWR@thisref}{%
11019             {\LWR@indexnameref@anonref{\#1}}%
11020             {\ref{LWRindex-\#1}}%
11021         }%
11022 }
```

\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.

```
11023 \newcommand*{\LWR@indexnameref@refnameref}[1]{%
11024     \edef\LWR@thisref{\csuse{r@LWRindex-\#1}}%
11025     \ifdefvoid{\LWR@thisref}{}{%
11026         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11027         \ifdefvoid{\LWR@thisref}{}{%
11028             \ifdefstring{\LWR@thisref}{(*)}{%
11029                 {}%
11030                 {\ref{LWRindex-\#1}}% space
11031             }%
11032         }%
11033     }%
11034 }
```

```

11031      }%
11032      }%
11033      \nameref{LWRindex-#1}%
11034 }

```

\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 (\*).

```

11035 \newcommand*{\LWR@indexnameref@cref}[1]{%
11036   \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11037   \ifdefvoid{\LWR@thisref}{%
11038     \nameref{LWRindex-#1}%
11039   }{%
11040     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11041     \ifdefvoid{\LWR@thisref}{%
11042       \nameref{LWRindex-#1}%
11043     }{%
11044       \ifdefstring{\LWR@thisref}{(*)}{%
11045         \LWR@indexnameref@anonref{#1}%
11046       }{%
11047         \cref{LWRindex-#1}%
11048       }%
11049     }%
11050   }%
11051 }

```

\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.

```

11052 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11053   \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11054   \ifdefvoid{\LWR@thisref}{%
11055     {}%
11056     {}%
11057     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
11058     \ifdefvoid{\LWR@thisref}{%
11059       {}%
11060       {}%
11061       \ifdefstring{\LWR@thisref}{(*)}{%
11062         {}%
11063         {\cref{LWRindex-#1}} % space
11064       }%
11065     }%
11066     \nameref{LWRindex-#1}%
11067 }

```

\LWR@indexnameref {⟨LWR@autoindex⟩}

Creates a hyperlink based on the given entry's autoindex.

```
11068 \newcommand*{\LWR@indexnameref}[1]{%
11069     {% group
```

Temporarily redefine `caption`'s `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```
11070     \ifdef{\caption@xref}{%
11071         \renewcommand*{\caption@xref}[2]{(*)}%
11072     }{}%
11073     \ifdefstring{\LWR@IndexRef}{ref}{%
11074         \LWR@indexnameref@ref{#1}%
11075     }{}%
11076     \ifdefstring{\LWR@IndexRef}{nameref}{%
11077         \nameref{LWRindex-#1}%
11078     }{}%
11079     \ifdefstring{\LWR@IndexRef}{refnameref}{%
11080         \LWR@indexnameref@refnameref{#1}%
11081     }{}%
11082     \ifdefstring{\LWR@IndexRef}{cref}{%
11083         \LWR@indexnameref@cref{#1}%
11084     }{}%
11085     \ifdefstring{\LWR@IndexRef}{crefnameref}{%
11086         \LWR@indexnameref@crefnameref{#1}%
11087     }{}%
11088     \ifdefstring{\LWR@IndexRef}{autoref}{%
11089         \LWR@indexnameref@cref{#1}%
11090     }{}% text string
11091     \LWR@startref{LWRindex-#1}%
11092     \LWR@IndexRef%
11093     \LWR@htmltag{/a}%
11094 }}}}{}%
11095 }% group
11096 }
```

`\LWR@doindexentrysubsub {<range start: LWR@autoindex, or macros.>} {<range end or blank>}`

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```
11097 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
11098     \IfInteger{#1}{%
11099         {\LWR@indexnameref{#1}}%
11100         {#1}%
11101     \IfValueT{#2}{%
11102         \IndexRangeSeparator%
11103         \IfInteger{#2}{%
11104             {\LWR@indexnameref{#2}}%
11105             {#2}%
11106         }%
11107     }}
```

```
\LWR@doindexentrysub {<range delimiter>} {<LWR@autoindex or macros, possible a range>}
```

```
11108 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
11109     {\LWR@doindexentrysub#2}
```

```
\LWR@doindexentry {<LWR@autoindex or macros, possible a range>}
```

```
11110 \newcommand*{\LWR@doindexentry}[1]{%
11111     \relax% required
11112     \expandafter\lWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
11113 }
```

\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{...}
```

```
11114 \newcommand{\lWR@hyperindexrefnullified}{%
11115     \renewrobustcmd{\emph}[1]{\lWR@HTML@emph{\lWR@doindexentry{##1}}}%
11116     \renewrobustcmd{\textbf}[1]{\lWR@HTML@textbf{\lWR@doindexentry{##1}}}%
11117     \renewrobustcmd{\texteb}[1]{\lWR@HTML@texteb{\lWR@doindexentry{##1}}}%
11118     \renewrobustcmd{\textlg}[1]{\lWR@HTML@textlg{\lWR@doindexentry{##1}}}%
11119     \renewrobustcmd{\textrm}[1]{\lWR@HTML@textrm{\lWR@doindexentry{##1}}}%
11120     \renewrobustcmd{\textsf}[1]{\lWR@HTML@textsf{\lWR@doindexentry{##1}}}%
11121     \renewrobustcmd{\texttt}[1]{\lWR@HTML@texttt{\lWR@doindexentry{##1}}}%
11122     \renewrobustcmd{\textup}[1]{\lWR@HTML@textup{\lWR@doindexentry{##1}}}%
11123     \renewrobustcmd{\textsc}[1]{\lWR@HTML@textsc{\lWR@doindexentry{##1}}}%
11124     \renewrobustcmd{\textlc}[1]{\lWR@HTML@textlc{\lWR@doindexentry{##1}}}%
11125     \renewrobustcmd{\textsi}[1]{\lWR@HTML@textsi{\lWR@doindexentry{##1}}}%
11126     \renewrobustcmd{\textit}[1]{\lWR@HTML@textit{\lWR@doindexentry{##1}}}%
11127     \renewrobustcmd{\textsl}[1]{\lWR@HTML@textsl{\lWR@doindexentry{##1}}}%
11128 }
```

```
\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.

```
11129 \newcommand*{\hyperindexref}[1]{%
11130     \relax% required
11131     \expandafter\lWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
11132 }
```

```
\lWR@hyperindexref@comma {<separator>} {<list of args>}
```

The list is split at commas, and passed to \LWR@hyperindexref@@comma.

```

11133 \NewDocumentCommand{\LWR@hyperindexref@comma}{%
11134   {m >{\SplitList{#1}} m}%
11135   {%

```

Used to place the separator between each entry, but not before the first.

```

11136   \def\LWR@hyperindexref@thiscomma{}%
11137   \def\LWR@hyperindexref@nextcomma{#1}%

```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@@comma.

```

11138   \ProcessList{#2}\LWR@hyperindexref@@comma%
11139   }

```

\LWR@hyperindexref@@comma {*arg, perhaps with a range*}

A comma separator is placed if not the first item, then the range is parsed.

```

11140 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
11141   \LWR@hyperindexref@thiscomma%
11142   \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11143   \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11144 }

```

\LWR@hyperindexref@range {*range delimiter*} {*arg*}

```

11145 \NewDocumentCommand{\LWR@hyperindexref@range}{%
11146   {m >{\SplitArgument{1}{#1}} m}%
11147   {\LWR@hyperindexrefsub#2}

```

\LWR@hyperindexrefsub {*range start: LWR@autoindex*} {*range end, or -NoValue-*}

Handles the start and end of a range, if applicable.

```

11148 \newcommand*{\LWR@hyperindexrefsub}[2]{%
11149   \LWR@hyperindexrefsubtwo{#1}%
11150   \IfValueT{#2}{%
11151     \IndexRangeSeparator%
11152     \LWR@hyperindexrefsubtwo{#2}%
11153   }%
11154 }

```

\LWR@hyperindexrefsubtwo {*LWR@autoindex*}

```

11155 \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.

```

11156   \edef\LWR@tempone{#1}%

```

---

```
11157 \IfBeginWith{\LWR@tempone}{ }{%
11158     \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11159 }{}
```

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.

```
11160 \IfInteger{\LWR@tempone}{%
11161     {\LWR@indexnameref{\LWR@tempone}}%
11162     {%
11163         \begingroup%
11164         \LWR@hyperindexrefnullified%
11165         #1%
11166         \endgroup%
11167     }%
11168 }
```

\hyperpage Emulate hyperref.

```
11169 \LetLtxMacro\hyperpage\hyperindexref
```

\nohyperpage Emulate hyperref.

```
11170 \def\nohyperpage#1{}
```

\hyperindexformat Emulate hyperref.

```
11171 \def\hyperindexformat#1#2{%
11172     #1{\hyperpage{#2}}%
11173 }
```

```
11174 \end{warpHTML}
```

**for PRINT output:** A null command for print mode, in case hyperref was not used:

```
11175 \begin{warpprint}
11176 \newcommand{\hyperindexref}[1]{#1}
11177 \end{warpprint}
```

**for HTML & PRINT:** For the glossaries package, try to prevent an error where \glo@name was not found:

```
11178 \begin{warpall}
11179 \providecommand{\glo@name}{}%
11180 \end{warpall}
```

## 80 Bibliography presentation

**for HTML output:** 11181 \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⟩}
```

```
11182 \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>

```
11183 \AtBeginDocument{%
11184   \AtBeginEnvironment{thebibliography}{%
11185     \providecommand*\LWR@newem[1]{\textit{\#1}}%
11186     \renewrobustcmd{\em}{%
11187       \begingroup
11188         \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11189         \afterassignment\LWR@em@after
11190         \toks@\bgroup
11191       }%
11192       \def\LWR@em@finish#1{%
11193         \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11194       }%
11195       \endgroup
11196       \def\LWR@em@finish#1{%
11197         \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11198       }%
11199       \LWR@em@after\egroup
11200     }%
11201   }%
11202 }% \AtBeginEnvironment{thebibliography}%
11203 }% \AtBeginDocument{%
11204 }% \AtBeginDocument{%
11205 \end{warpHTML}
```

## 81 Restoring original formatting

**for HTML output:** 11206 \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.

```
11207 \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.

```
11208 \newcommand*{\LWR@restoreorigformatting}{%
11209   \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on \LWR@formatting:

```
11210   \renewcommand*{\LWR@formatting}{print}%
11211   \linespread{1}%
11212   \let\par\LWR@origpar%
11213   \LWR@select@print@hskip%
11214   \LetLtxMacro\hfil\LWR@orighfil%
11215   \let\hss\LWR@orighss%
11216   \let\llap\LWR@origllap%
11217   \let\rlap\LWR@origrlap%
11218   \let\hfilneg\LWR@orighfilneg%
11219   \let\,,\LWR@origcomma% disable HTML short unbreakable space
11220   \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
11221   \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
11222   \let\textellipsis\LWR@origtextellipsis%
11223   \let\vdots\LWR@origvdots%
11224   \let\textless\LWR@origtextless%
11225   \let\textgreater\LWR@origtextgreater%
11226   \let\&\LWR@origampersand%
11227   \LetLtxMacro\em\LWR@origem%
11228   \LetLtxMacro\normalfont\LWR@orignormalfont%
11229   \let\sp\LWR@origsp%
11230   \let\sb\LWR@origsb%
11231   \LetLtxMacro\underline\LWR@origunderline%
11232   \let~\LWR@origtilde%
11233   \let\enskip\LWR@origenskip%
11234   \let\quad\LWR@origquad%
11235   \let\qquad\LWR@origqquad%
```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```

11236   \LetLtxMacro\endtabular\LWR@origendtabular%
11237   \csletcs{endtabular*}{\LWR@origendtabular*}%

11238   \LetLtxMacro\noalign{\LWR@orignoalign}%
11239   \LetLtxMacro\hline{\LWR@orighline}%

11240   \let\newline{\LWR@orignewline}%
11241   \LetLtxMacro\includegraphics{\LWR@origincludegraphics}%

11242   \LetLtxMacro{@ensuredmath}{\LWR@origensuredmath}%

11243   \let\math{\LWR@orig@math}%
11244   \let\endmath{\LWR@orig@endmath}%
11245   \let\displaymath{\LWR@orig@displaymath}%
11246   \let\enddisplaymath{\LWR@orig@enddisplaymath}%
11247 %
11248   \LWR@restoreorigaccents%
11249   \LWR@restoreoriglists%
11250 %
11251   \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for tcolorbox:

```

11252   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
11253     {\LWR@restoreMathJaxformatting}%
11254   }%
11255 }

11256 \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:** 11257 \begin{warpHTML}

Also commonly used are \empty, \gobble, and \firstofone.

```
11258 \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.

```
11259 \catcode`\$=\active% redefining $ below
11260 \catcode`\_=12% redefining \_ below
11261 \newcommand*{\LWR@nullfonts}{%
```

Various built-in symbols.

```
11262      \renewcommand*{\$}{-}%
11263      \renewcommand*{\%}{-}%
11264      \renewcommand*{\_}{-}%
11265      \renewcommand*{\{}{-}%
11266      \renewcommand*{\}}{-}%
11267      \renewcommand*{\&}{-}%
11268      \renewcommand*{\#}{-}%
11269      \renewcommand*{\,}{-}%
11270      \renewcommand*{\~}{-}%
11271 %
11272 % accents:
11273      \renewcommand*{\`}[1]{##1}%
11274      \renewcommand*{\'}[1]{##1}%
11275      \renewcommand*{\^}[1]{##1}%
11276      \renewcommand*{\~}[1]{##1}%
11277      \renewcommand*{\=}[1]{##1}%
11278      \renewcommand*{\u}[1]{##1}%
11279      \renewcommand*{\.}[1]{##1}%
11280      \renewcommand*{\"}[1]{##1}%
11281      \renewcommand*{\H}[1]{##1}%
11282      \renewcommand*{\v}[1]{##1}%
11283      \renewcommand*{\d}[1]{##1}%
11284      \renewcommand*{\c}[1]{##1}%
11285      \renewcommand*{\b}[1]{##1}%
11286      \renewcommand*{\t}[1]{##1}%
11287 %
11288      \let\newline\LWR@dash%
11289      \let\textasciicircum\LWR@dash%
11290      \let\textasciitilde\LWR@dash%
11291      \let\textasteriskcentered\LWR@dash%
11292      \let\textbackslash\LWR@dash%
11293      \let\textbar\LWR@dash%
11294      \let\textbardbl\LWR@dash%
11295      \let\textbigcircle\LWR@dash%
11296      \let\textbraceleft\LWR@dash%
11297      \let\textbraceright\LWR@dash%
11298      \let\textbullet\LWR@dash%
11299      \let\textcopyright\LWR@dash%
11300      \let\textdagger\LWR@dash%
11301      \let\textdaggerdbl\LWR@dash%
11302      \let\textdollar\LWR@dash%
11303      \let\textellipsis\LWR@dash%
11304      \let\textemdash\LWR@dash%
11305      \let\textendash\LWR@dash%
11306      \let\textexclamdown\LWR@dash%
11307      \let\textgreater\LWR@dash%
```

```
11308 \let\textless\LWR@dash%
11309 \let\textordfeminine\LWR@dash%
11310 \let\textordmasculine\LWR@dash%
11311 \let\textparagraph\LWR@dash%
11312 \let\textperiodcentered\LWR@dash%
11313 \let\textpertenthousand\LWR@dash%
11314 \let\textperthousand\LWR@dash%
11315 \let\textquestiondown\LWR@dash%
11316 \let\textquotedblleft\LWR@dash%
11317 \let\textquotedblright\LWR@dash%
11318 \let\textquotleft\LWR@dash%
11319 \let\textquotright\LWR@dash%
11320 \let\textregistered\LWR@dash%
11321 \let\textsection\LWR@dash%
11322 \let\textsterling\LWR@dash%
11323 \let\texttrademark\LWR@dash%
11324 \let\textunderscore\LWR@dash%
11325 \let\textvisiblespace\LWR@dash%
11326 \let\copyright\LWR@dash%
11327 \let\dag\LWR@dash%
11328 \let\ddag\LWR@dash%
11329 \let\dotso\LWR@dash%
11330 \let\P\LWR@dash%
11331 \let\pounds\LWR@dash%
11332 \let\S\LWR@dash%
11333 %
11334 \renewcommand*\aa{a}%
11335 \renewcommand*\AA{A}%
11336 \renewcommand*\AE{AE}%
11337 \renewcommand*\ae{ae}%
11338 \renewcommand*\dh{d}%
11339 \renewcommand*\DH{D}%
11340 \renewcommand*\DJ{D}%
11341 \renewcommand*\dj{d}%
11342 \renewcommand*\IJ{IJ}%
11343 \renewcommand*\ij{ij}%
11344 \renewcommand*\L{L}%
11345 \renewcommand*\l{l}%
11346 \renewcommand*\NG{NG}%
11347 \renewcommand*\ng{ng}%
11348 \renewcommand*\O{O}%
11349 \renewcommand*\o{o}%
11350 \renewcommand*\oe{oe}%
11351 \renewcommand*\OE{OE}%
11352 \renewcommand*\ss{ss}%
11353 \renewcommand*\SS{SS}%
11354 \renewcommand*\th{th}%
11355 \renewcommand*\TH{TH}%
11356 %
11357 \let\guillemotleft@\empty%
11358 \let\guilsinglleft@\empty%
11359 \let\quotedblbase@\empty%
11360 \let\textquotedbl@\empty%
11361 \let\guillemotright@\empty%
11362 \let\guilsinglright@\empty%
```

---

```

11363 \let\quotesinglbase\@empty%
11364 \renewcommand*\{\\HTMLunicode}{1}{}%
11365 \renewcommand*\{\\HTMLEntity}{1}{}%
11366 \renewcommand{\textsuperscript}{1}{##1}%
11367 \renewcommand{\textsubscript}{1}{##1}%
11368 \renewcommand{\underline}{1}{##1}%
11369 \RenewDocumentCommand{\hspace}{s m}{}%
11370 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{{##4}}%
11371 \DeclareExpandableDocumentCommand{\InlineClass}{D(){} o m +m}{{##4}}%

```

Nullify math macros.

```

11372 \def\(\#1\){}%
11373 \def\[\\#1\]{}%
11374 \RenewDocumentCommand{\LWR@subsingle$}{s m m m}{}%

```

Nullify logos:

```

11375 \renewcommand*\{\\TeX\}{\\TeX}%
11376 \renewcommand*\{\\LaTeX\}{\\LaTeX}%
11377 \renewcommand*\{\\LaTeXe\}{\\LaTeX2e}%
11378 \renewcommand*\{\\LuaTeX\}{\\LuaTeX}%
11379 \renewcommand*\{\\LuaLaTeX\}{\\LuaLaTeX}%
11380 \renewcommand*\{\\XeTeX\}{\\XeTeX}%
11381 \renewcommand*\{\\XeLaTeX\}{\\XeLaTeX}%
11382 \renewcommand*\{\\ConTeXt\}{\\ConTeXt}%
11383 \renewcommand*\{\\BibTeX\}{\\BibTeX}%
11384 \renewcommand*\{\\MakeIndex\}{\\MakeIndex}%
11385 \renewcommand*\{\\AmS\}{\\AmS}%
11386 \renewcommand*\{\\MiKTeX\}{\\MiKTeX}%
11387 \renewcommand*\{\\LyX\}{\\LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11388 \def\texorpdfstring{\expandafter\@secondoftwo}%
11389 }%
11390 \catcode`\$=3%
11391 \catcode`\_=8%

```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```

11392 \newcommand*\{\\FilenameNullify}{1}{}%
11393 \appto{\LWR@nullfonts}{#1}%
11394 }%
11395 \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:** 11396 \begin{warpall}

\AltTextOpen The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

11397 \newcommand\*\{\AltTextOpen\}{()

\AltTextClose The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: )

11398 \newcommand\*\{\AltTextClose\}{}}

\ImageAltText The HTML alt tag for an image.

Default: image

11399 \newcommand\*\{\ImageAltText\}{image}

\MathImageAltText The HTML alt tag for an SVG math image.

Default: "math image"

11400 \newcommand\*\{\MathImageAltText\}{math image}

\LWR@ThisAltText The HTML alt tag for the next image. Cleared after use, and also after each `\textrimage`, `\LWR@subsingle$`, and each use of MATHJAX.

11401 \newcommand\*\{\LWR@ThisAltText\}{}

\ThisAltText {<text>}

Assigns the HTML alt tag for the next image generated by `l warp`, such as a `\textrimage`, `picture`, or SVG math.

11402 \newcommand\*\{\ThisAltText\}[1]{%  
11403 \renewcommand\*\{\LWR@ThisAltText\}{#1}%  
11404 }

\PackageDiagramAltText Appended to the `lateximage` HTML alt tag for the images generated by many packages.  
 Default: “`diagram`”

```
11405 \newcommand*{\PackageDiagramAltText}[1]{#1}
11406 \end{warpall}
```

### 83.3 Inline and display math

**for HTML output:** 11407 `\begin{warpHTML}`

Ctr LWR@externalfilecnt Counter for the external files which are generated and then referenced from the HTML:

```
11408 \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.

```
11409 \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.

```
11410 \newbool{LWR@insidemathcomment}
11411 \boolfalse{LWR@insidemathcomment}
```

Bool LWR@xfakebold True if `xfakebold` \setBold is in use.

```
11412 \newbool{LWR@xfakebold}
11413 \boolfalse{LWR@xfakebold}
```

\LWR@orig@setBold Redefined by `lwarp-xfakebold`.

```
11414 \newcommand*{\LWR@orig@setBold}{}{}
```

\LWR@orig@unsetBold Redefined by `lwarp-xfakebold`.

```
11415 \newcommand*{\LWR@orig@unsetBold}{}{}
```

\LWR@applyxfakebold Redefined by `lwarp-xfakebold`.

```
11416 \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`.

```

11417 \newcommand*{\LWR@setcurrentfont}{%
11418   \LWR@traceinfo{Using font family \LWR@f@family}%
11419   \nameuse{\LWR@print@\LWR@f@family family}%
11420   \LWR@traceinfo{Using font series \LWR@f@series}%
11421   \nameuse{\LWR@print@\LWR@f@series series}%
11422   \LWR@traceinfo{Using font shape \LWR@f@shape}%
11423   \nameuse{\LWR@print@\LWR@f@shape shape}%
11424   \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11425   \nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11426 }

```

\\$ 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.

```

11427 \let\LWR@origtextdollar\$
11428
11429 \renewcommand*{\$}{%
11430   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11431   {\LWR@origtextdollar}%
11432   {\HTMLunicode{00024}}%
11433 }

```

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.

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.

```

11434 \AtBeginDocument{%
11435
11436 \ifpdf
11437   \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
11438 \else
11439   \ifXeTeX
11440     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
11441   \else
11442     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}
11443   \fi

```

```

11444 \fi
11445
11446 \IfFileExists{\LWR@baselinename}%
11447 {
11448   \@ifpackageloaded{graphicx}{%
11449     \newcommand*{\LWR@addbaselinemarker}{%
11450       \LWR@originincludegraphics{\LWR@baselinename}%
11451     }%
11452   }{%
11453     \@ifpackageloaded{graphics}{%
11454       \newcommand*{\LWR@addbaselinemarker}{%
11455         \LWR@originincludegraphics{\LWR@baselinename}%
11456       }%
11457     }{%
11458       \newcommand*{\LWR@addbaselinemarker}{%
11459         \global\booltrue{\LWR@warnbaselinemarker}%
11460       }%
11461       \AtEndDocument{%
11462         \@ifbool{\LWR@warnbaselinemarker}{%
11463           \PackageWarningNoLine{l warp}{%
11464             Load graphicx or graphics for improved\MessageBreak
11465             SVG math sizing and baselines%
11466           }%
11467         }{}%
11468       }%
11469     }%
11470   }%
11471 }% l warp_baseline_marker.png or .eps is not present
11472   \newcommand*{\LWR@addbaselinemarker}{%
11473     \global\booltrue{\LWR@warnbaselinemarker}%
11474   }%
11475   \AtEndDocument{%
11476     \@ifbool{\LWR@warnbaselinemarker}{%
11477       \PackageWarningNoLine{l warp}{%
11478         File \LWR@baselinename\space is not installed\MessageBreak
11479         alongside the l warp-*.sty files, so\MessageBreak
11480         SVG math sizing and baselines may not be accurate}%
11481     }{}%
11482   }%
11483 }%
11484
11485 }% AtBeginDocument

```

Bool `LWR@warnbaselinemarker` True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11486 \newbool{\LWR@warnbaselinemarker}
11487 \boolefalse{\LWR@warnbaselinemarker}

```

Bool `LWR@unknownmathsize` If Tikz or other objects are used inside math mode, the resulting image may exceed the TeX box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the HTML styles for image size and depth will be neutralized.

```

11488 \newbool{\LWR@unknownmathsize}

```

```
\LWR@singledollarmeasure {⟨math expression⟩}
```

Measures the size of the image of the math expression.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

**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:** \LWR@origensuredmath is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without \LWR@origensuredmath, so \LWR@origensuredmath is added below.

**\ifmmode:** Included “just in case”.

Factored from \LWR@subsingledollarsvg.

```
11489 \newcommand*{\LWR@singledollarmeasure}[1]{%
11490     \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11491     \LWR@restoreorigformatting%
11492     \RenewDocumentEnvironment{lateximage}{s o s o o d(){}{}% inside group
11493         \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11494     \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags. *AMS* math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
11495     \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```
11496     \boolfalse{LWR@unknownmathsize}%
11497     \ifmmode%
11498         \global\sbox{\LWR@singledollarbox}{#1}%
11499     \else%
11500         \ifbool{LWR@dynamicmath}{%
11501             \ifbool{mathjax}{%
```

```

11502          \global\sbox{\LWR@singledollarbox}%
11503          {\LWR@origensuredmath{#1}}%
11504      }%
11505      \global\sbox{\LWR@singledollarbox}{#1}%
11506      }%
11507  }%
11508  \global\sbox{\LWR@singledollarbox}{#1}%
11509  }%
11510 \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.

```

11511 \global\sbox{\LWR@singledollarbox}{%
11512   \usebox{\LWR@singledollarbox}%
11513   \raisebox{-\dp\LWR@singledollarbox}{%
11514     \LWR@addbaselinemarker}%
11515   }%
11516 }%

```

More low-level code to undo the counter change.

```
11517 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```

11518 \setlength{\LWR@singledollardepth}{%
11519   \LateximageFontSize\dp\LWR@singledollarbox}%
11520 }%

```

Make the length a global change:

```
11521 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```

11522 \setlength{\LWR@singledollarwidth}{%
11523   \LateximageFontSize\wd\LWR@singledollarbox}%
11524 }%
11525 \global\LWR@singledollarwidth=\LWR@singledollarwidth%

```

Likewise for total height:

```

11526 \setlength{\LWR@singledollarheight}{%
11527   \LateximageFontSize\ht\LWR@singledollarbox}%
11528 }%
11529 \addtolength{\LWR@singledollarheight}{%
11530   \LateximageFontSize\dp\LWR@singledollarbox}%
11531 }%
11532 \global\LWR@singledollarheight=\LWR@singledollarheight%

```

```
11533     \endgroup%
11534 }
```

\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 `teximage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from \LWR@subsingledollarsvg.

```
11535 \newcommand*{\LWR@subsingledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
11536     \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:

```
11537     \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11538         \def\LWR@singledollarstyle{%
11539             width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11540         }%
11541     }{%
11542         \def\LWR@singledollarstyle{%
11543             height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11544         }%
11545     }%
```

If a very narrow width, use the height.

```
11546     \ifdimless{\LWR@singledollarwidth}{.2em}{%
11547         \def\LWR@singledollarstyle{%
11548             height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11549         }%
11550     }%
11551     \}%
11552 \}%
11553 }
```

If very wide and short, use the width:

```
11553     \ifdimless{\LWR@singledollarheight}{.2em}{%
11554         \def\LWR@singledollarstyle{%
11555             width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11556         }%
11557     }%
11558     \}%
11559 \}%
11560 }
```

If there is significant text depth, add the depth to the style.

```

11560     \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11561         \def\LWR@singledollardepthstyle{%
11562             \ ; % extra space
11563             \LWR@print@mbox{%
11564                 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11565             } % extra space
11566         }%
11567     }{%
11568         \def\LWR@singledollardepthstyle{}%
11569     }%

```

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.

```

11570     \ifbool{\LWR@unknowmathsize}{%
11571         \def\LWR@singledollarstyle{}%
11572         \def\LWR@singledollardepthstyle{}%
11573     }{%

```

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.

```

11574     \ifbool{\LWR@dynamicmath}{%
11575         \LWR@traceinfo{subsingle dollar: dynamic}%
11576         \begin{lateximage}% no hashing
11577             [\MathImageAltText]% alt tag
11578             []% no add'l hashing
11579             [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11580             (math)% ARIA
11581     }{%
11582         \LWR@traceinfo{subsingle dollar: static}%
11583         \IfValueTF{#1}{%
11584             \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for *xfakebold*:

```

11585         \ifbool{\LWR@xfakebold}{%
11586             \def\LWR@tempone{Y}%
11587             \def\LWR@tempone{N}%
11588             \begin{lateximage}**% use hashing
11589                 [#2]% alt
11590                 *% do not add open/closing braces
11591                 [% addl' hashing
11592                     #3%
11593                     FM\LWR@f@family%
11594                     SR\LWR@f@series%
11595                     SH\LWR@f@shape%
11596                     SHC\LWR@f@shapecaps%
11597                     CL\LWR@tempcolor%
11598                     FB\LWR@tempone% xfakebold

```

```

11599          ]%
11600          [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11601          (math)% ARIA
11602      }{#1 False
11603          \begin{lateximage} no hashing
11604          [#2] alt
11605          [] no add'l hashing
11606          [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
11607          (math)% ARIA
11608      }%
11609  }% 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.)

```
11610  \LWR@addbaselinemarker%
```

Support for *xfakebold*:

```
11611  \LWR@applyxfakebold%
```

Typeset the contents:

```
11612  \usebox{\LWR@singledollarbox}%

```

The closing baseline marker:

```

11613  \LWR@addbaselinemarker%
11614  \end{lateximage}%
11615 %
11616 }

```

```
\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:** \LWR@origensuredmath is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\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.

```

11617 \newlength{\LWR@singledollarwidth}
11618 \newlength{\LWR@singledollarheight}
11619 \newlength{\LWR@singledollardepth}
11620
11621 \newsavebox{\LWR@singledollarbox}
11622
11623 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
11624     \LWR@traceinfo{\LWR@subsingledollar}%
11625     \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11626     {%
11627         \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11628         #4% contents
11629     }%
11630     {%
11631         \begingroup%

```

Support for `xfakebold`:

```
11632     \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:

```

11633     \ifboolexpr{%
11634         (
11635             bool{mathjax} or
11636             ( bool{FormatWP} and bool{WPMarkMath} )
11637         ) and
11638         ( not test {
```

```

11639          \ifstrequal {\#2}%
11640          { from \ensuredmath
11641          { \AltTextOpen\MathImageAltText\AltTextClose}
11642          }
11643          ) and
11643          ( not \bool{LWR@dynamicmath} )
11644      }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

11645      {%
11646      \LWR@traceinfo{\LWR@subsingle$ Mathjax}%
11647      {%
11648      \textbackslash%%
11649      {%

```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math,  
ex. equation with `tcolorbox` with math.

```

11650          \ifmmode\else\LWR@print@ttfamily\fi%
11651          \LWR@HTMLsanitize{#4}%
11652          }%
11653          \textbackslash%)%
11654          }%
11655      }% 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.

```

11656      {%
11657      \LWR@traceinfo{%
11658          \LWR@subsingle$ NOT mathjax, or is ensuremath, or is dynamic%
11659          }%
11660          \LWR@subsingle$svg{#1}{#2}{#3}{#4}%
11661      }% not mathjax
11662      \endgroup%
11663      }% not in a lateximage

```

Clear the single-use alt text:

```

11664      \gdef\LWR@ThisAltText{}%
11665      \LWR@traceinfo{\LWR@subsingle$ done}%
11666 }

11667 \LetLtxMacro{\LWR@origsingle$}{%
11668 \LetLtxMacro{\LWR@secondsingle$}{\balance{editor syntax highlighting}}}

11669 \LetLtxMacro{\LWR@origopenparen}{(}
11670 \LetLtxMacro{\LWR@origcloseparen}{)}
11671 \LetLtxMacro{\LWR@origopenbracket}{[}
11672 \LetLtxMacro{\LWR@origclosebracket}{]}

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use MATHJAX:  
\$\$

```
11673 \begingroup
11674 \catcode`\$=\active%
11675 \protected\gdef$\{@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```
11676 \protected\gdef\newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```
11677 \protected\gdef\LWR@doubledollar$#1$${%

```

If `MATHJAX` or formatting for a word processor, print the `LATEX` expression:

```
11678 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%

```

For `MATHJAX`, print the math between `\[` and `\]`:

```
11679 {
11680
11681     \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`.

```
11682         \LWR@hidelatexequation{math}{\#1}{%
11683             \InLineClass{hidden}{\LWR@syncnotenumbers}{%
11684                 \textbackslash[%
11685                 {\LWR@print@ttfamily\LWR@HTMLsanitize{\#1}}{%
11686                     \textbackslash]%
11687                     \InLineClass{hidden}{\LWR@syncnotenames}{%
11688                         }{%
11689                             \textbackslash[%
11690                             {\LWR@print@ttfamily\LWR@HTMLsanitize{\#1}}{%
11691                                 \textbackslash]%
11692                         }{%
11693             }{%
11694 }% mathjax

```

For `SVG`, print the math inside a `lateximage`, with an `<alt>` tag of the `LATEX` code:

```
11695 {%
11696     \begin{BlockClass}{displaymath}{%
11697         \LWR@newautoidanchor{%
11698             \booltrue{\LWR@indisplaymathimage}{%
11699                 \begin{lateximage}{%
11700                     [\%
11701                         \textbackslash[{} % extra space
11702                         \LWR@HTMLsanitize{\#1} % extra space
11703                         \textbackslash]}{%
11704                 }%}

```

```

11705      *% do not add open/closing braces
11706      (math)% ARIA

```

Support for `xfakebold`:

```

11707      \LWR@applyxfakebold%
11708      \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11709      \end{lateimage}%
11710      \end{BlockClass}%
11711 }% not mathjax

```

Clear the single-use alt text:

```

11712 \gdef\LWR@ThisAltText{}%
11713 }%

```

`\LWR@singledollar {<alt text>} {<math expression>}`

```

11714 \protected\gdef\LWR@singledollar#1{%
11715 \ifbool{mathjax}{%
11716     \LWR@subsingledollar*%
11717     {% alt tag
11718         \textbackslash( %
11719         \LWR@HTMLsanitize{\#1} % extra space
11720         \textbackslash)%
11721     }%
11722     {singledollar}% add'l hashing
11723     {\#1}% contents
11724 }{%
11725     \LWR@subsingledollar*%
11726     {% alt tag
11727         \textbackslash( %
11728         \LWR@HTMLsanitize{\#1} % extra space
11729         \textbackslash)%
11730     }%
11731     {singledollar}% add'l hashing
11732     {\LWR@origensuredmath{\#1}}% contents
11733 }%

```

Clear the single-use alt text:

```

11734 \gdef\LWR@ThisAltText{}%
11735 }%

```

`\(` Redefine to the above dollar macros.`

```

`[
11736 \AtBeginDocument{%
11737     \protected\gdef\(#1\){\$#1\$}
11738     \protected\gdef\[#1\]{\$\$#1\$\$}
11739 }
11740
11741 \endgroup% active $

```

```

11742 \AtBeginDocument{
11743   \LetLtxMacro{\LWR@openbracketnormal}{[
11744   \LetLtxMacro{\LWR@closebracketnormal}{]}
11745 }
```

\@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.

```

11746 \LetLtxMacro{\LWR@origensuredmath}{\@ensuredmath}
11747
11748 \renewcommand{\@ensuredmath}[1]{%
11749   \ifbool{mathjax}{%
11750     \LWR@subsingle-dollar*{\AltTextOpen\MathImageAltText\AltTextClose}%
11751   }{%
11752     \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
11753   }%
11754   \relax%
11755   \LWR@origensuredmath{\#1}%
11756 }%
11757 }%
11758 }% SVG math
```

If already inside a `lateximage` in math mode, continue as-is.

```

11759   \ifmmode%
11760     \LWR@origensuredmath{\#1}%
11761   \else%
```

Create an inline math `lateximage` with a simple alt tag and additional hashing according to the contents.

```

11762   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
11763     \LWR@origensuredmath{\#1}%
11764   }{%
11765     \LWR@subsingle-dollar*{%
11766       \AltTextOpen\MathImageAltText\AltTextClose}%
11767       \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
11768       \LWR@origensuredmath{\#1}%
11769   }%
11770 }%
11771 }%
```

Clear the single-use alt text:

```

11772   \gdef\LWR@ThisAltText{}%
11773 }
```

Remember then remove the old `math` and `displaymath` environments:

```

11774 \let\LWR@orig@math\math
11775 \let\LWR@orig@endmath\endmath
11776
11777 \let\LWR@orig@displaymath\displaymath
11778 \let\LWR@orig@enddisplaymath\enddisplaymath
11779
11780 \let\math\relax
11781 \let\endmath\relax
11782
11783 \let\displaymath\relax
11784 \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.

```
11785 \NewEnviron{math}{\expandafter{(\BODY\')}}
```

**Env** `LWR@displaymathnormal` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for \BODY.

```
11786 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY]\ignoretrue}
```

Set the default displaymath to the normal version:

```

11787 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11788 \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.

```

11789 \newenvironment{LWR@displaymathother}
11790 {%
11791   \begin{BlockClass}{displaymath}%
11792   \LWR@newautoidanchor%
11793   \booltrue{LWR@indisplaymathimage}%
11794   \begin{latentimage}[\MathImageAltText](math)% [alt](ARIA)%
11795   \LWR@origdollar\LWR@origdollar%
11796 }%
11797 {%
11798   \LWR@origdollar\LWR@origdollar%
11799   \end{latentimage}%
11800   \end{BlockClass}%
11801 }

```

**Env** `LWR@equationother` A version of displaymath which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

11802 \newenvironment{LWR@equationother}
11803 {%
11804   \begin{BlockClass}{displaymathnumbered}%
11805   \LWR@newautoidanchor%

```

```

11806  \booltrue{LWR@indisplaymathimage}%
11807  \begin{lateximage}[\MathImageAltText](math)% [alt](ARIA)
11808  \LWR@orig@equation%
11809 }
11810 {%
11811  \LWR@orig@endequation%
11812  \end{lateximage}%
11813  \end{BlockClass}%
11814 }
```

### 83.4 MATHJAX support

Ctr LWR@nextequation Used to add one to compute the next equation number.

```
11815 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of \theequation to determine \theMathJaxsection and \theMathJaxequation.

```

11816 \newcommand\LWR@article@theequation{\@arabic\c@equation}
11817
11818 \newcommand\LWR@book@theequation
11819  {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
11820
11821
11822 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
11823 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
11824 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
11825
11826 \AtBeginDocument{
11827   % default per article class:
11828   \newcommand*\theMathJaxsubequations}{0}
11829   \newcommand*\theMathJaxsection}{}
11830   \newcommand*\theMathJaxequation}{\arabic{equation}}
11831
11832   \ifdef\streq{\theequation}{\LWR@article@theequation}
11833   {}{
11834   \ifdef\streq{\theequation}{\LWR@book@theequation} {
11835     \renewcommand*\theMathJaxsection}{\ifnum \c@chapter>\z@ \thechapter.\fi}
11836   }{
11837   \ifdef\streq{\theequation}{\LWR@subsection@theequation} {
11838     \renewcommand*\theMathJaxsection}{\thesubsection{}}
11839   }{
11840   \ifdef\streq{\theequation}{\LWR@section@theequation} {
11841     \renewcommand*\theMathJaxsection}{\thesection{}}
11842   }{
11843   \ifdef\streq{\theequation}{\LWR@chapter@theequation} {
11844     \renewcommand*\theMathJaxsection}{\thechapter{}}
11845   }% unknown format
11846   \PackageWarningNoLine{lwarf}
11847   {%
11848     Unknown equation tag format for \protect\theequation.\MessageBreak
11849     Article-style equation numbering will be used%
```

```

11850      }
11851    }}}}}
11852 }
```

`\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.

```
11853 \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.

```

11854      \LWR@stopars%
11855      \InlineClass{hidden}{%
11856          \textbackslash{%
11857          \textbackslash{}seteqnumber{%
11858              \{\theMathJaxsubequations\}%
11859              \{\theMathJaxsection\}%
11860              \{\theMathJaxequation\}%
11861          \textbackslash{%
11862      }%
11863      \LWR@startpars%
11864 }
```

`\LWR@hidelatexequation` {*environment*} {*contents*}

Creates the LATEX version of the equation inside an HTML comment.

```
11865 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11866      \LWR@stopars
11867      \LWR@htmlopencomment
11868
```

Start the LATEX math environment inside the HTML comment:

```

11869      \begingroup
11870      \nameuse{\LWR@orig@\#1}
```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```
11871      \LWR@restoreorigformatting
11872      \booltrue{\LWR@insidemathcomment}
```

Temporarily prevent underfull \hbox warnings.

```
11873      \hbadness=10000\relax%
```

See \LWR@htmlmathlabel in section 83.7.1.

Print the contents of the equation:

```
11874      #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```
11875      \nameuse{\LWR@orig@end#1}
11876      \endgroup
11877
```

Close the HTML comment and resume HTML paragraph handling:

```
11878      \LWR@htmclosecomment
11879      \boolfalse{\LWR@insidemathcomment}
11880      \LWR@startpars
11881 }
```

\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.

```
11882 \NewDocumentCommand{\LWR@addmathjax}{m +m}%
11883      \LWR@origtilde\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\(`” and “\)`” characters. Print the environment name and contents, sanitizing for HTML special characters.

```
11884      {%
11885      \LWR@print@ttfamily%
11886      \textbackslash{}begin{\#1\`{}}
```

The alignat environment takes a mandatory argument, which must be replicated here.

```
11887      \ifboolexpr{
11888          test {\ifstreq{\#1}{alignat}} or
11889          test {\ifstreq{\#1}{alignat*}} or
11890          test {\ifstreq{\#1}{alignat+}}}
11891      }%
```

---

```
11892      {\{\arabic{LWR@maxfields@\}}}%  
11893      }%
```

The environment contents and \end:

```
11894      \LWR@orignewline%  
11895      \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#2}}%  
11896      \LWR@orignewline%  
11897      \textbackslash{}end\{\#1\}  
11898      }%  
  
11899      \LWR@orignewline  
11900 }
```

### 83.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```
11901 \AtBeginDocument{  
11902   \let\LWR@orig@equation\equation  
11903   \let\LWR@orig@endequation\endequation  
11904   \csletcs{\LWR@orig@equation*}{equation*}  
11905   \csletcs{\LWR@orig@endequation*}{endequation*}  
11906 }
```

`\LWR@doequation {<env contents>} {<env name>}`

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 `LATEX` 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.

```
11907 \newcommand*{\LWR@doequation}[2]{%  
11908 }
```

If `mathjax` or `FormatWP`, print the `LATEX` expression:

```
11909 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
```

`MATHJAX` output:

```
11910 {
```

Print commands to syncronize `MATHJAX`'s equation number and format to the current `LATEX` chapter/section and equation number:

```
11911 \LWR@syncmathjax%
```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```
11912      \LWR@hidelatexequation{#2}{#1}
11913  }
```

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`.

```
11914  {% not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
11915      \ifstrequal{#2}{equation*}{%
11916          \begin{BlockClass}{displaymath}%
11917      }{%
11918          \begin{BlockClass}{displaymathnumbered}%
11919      }{%
11920          \LWR@newautoidanchor%
11921          \booltrue{\LWR@indisplaymathimage}%
11922          \begin{lateximage}[%%
11923              \ifstrequal{#2}{equation*}{%
11924                  \ifdefequal{\LWR@equationtag}{\theequation}{%
11925                      % no tag was given
11926                  }{%
11927                      (\LWR@equationtag) % tag was given
11928                  }{%
11929                      (\LWR@equationtag) % automatic numbering
11930                  }{%
11931                      \textbackslash{begin}\{#2\}} % extra space
11932                      \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
11933                      \textbackslash{end}\{#2\}}%
11934                  ]*(math)% alt tag, ARIA
11935  }
```

Support for `xfakebold`:

```
11936  \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.

```
11937      \nameuse{\LWR@orig@#2}%
11938      #1% contents collected by \collect@body
11939      \nameuse{\LWR@orig@end#2}%
11940      \end{lateximage}%
11941      \end{BlockClass}%
11942  }% not mathjax
```

Clear the single-use alt text:

```
11943  \gdef\LWR@ThisAltText{}%
11944 }
```

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.

```

11945 \newcommand*{\LWR@doendequation}[1]{%
11946     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
11947         {%
11948             \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
11949                 \InlineClass{hidden}{\LWR@syncnotenumbers}%
11950                 \LWR@addmathjax{\#1}{\BODY}%
11951                 \InlineClass{hidden}{\LWR@syncnotenames}%
11952             }{%
11953                 \LWR@addmathjax{\#1}{\BODY}%
11954             }%
11955         }{%
11956     }

```

Clear the single-use alt text:

```

11957     \gdef\LWR@ThisAltText{}%
11958 }

```

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*}

```

11959 \newcommand*{\LWR@synconenotenumber}[2]{%
11960     \textbackslash%
11961     \textbackslash{}def\textbackslash{}#1\{\#2\}%
11962     \textbackslash%
11963 }

```

\LWR@syncnotenumbers Assignments to make.

```
11964 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
```

\LWR@synconenotename {*MathJax variable*} {*text*}

```

11965 \newcommand*{\LWR@synconenotename}[2]{%
11966     \textbackslash%
11967     \textbackslash{}def\textbackslash{}#1name\{\#2\}%
11968     \textbackslash%
11969 }

```

\LWR@syncnotenames Assignments to make.

```
11970 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
11971 \AtBeginDocument{
11972     \let\equation\relax
11973     \let\endequation\relax
11974     \csletcs{equation*}{relax}
11975     \csletcs{endequation*}{relax}
11976 }
```

**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`.

```
11977 \AtBeginDocument{
11978     \NewEnviron{equation}%
11979         {\LWR@doequation{\BODY}{equation}}%
11980         [\LWR@doendequation{equation}]
11981
11982     \LetLtxMacro{\LWR@equationnormal}{equation}
11983     \LetLtxMacro{\endLWR@equationnormal}{endequation}
11984 }% AtBeginDocument
```

**Env** `equation*`

```
11985 \AtBeginDocument{
11986     \NewEnviron{equation*}%
11987         {\LWR@doequation{\BODY}{equation*}}%
11988         [\LWR@doendequation{equation*}]
11989
11990     \csletcs{\LWR@equationnormalstar}{equation*}
11991     \csletcs{\LWR@endequationnormalstar}{endequation*}
11992 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```
11993 \AtBeginDocument{
11994     \LetLtxMacro{\LWR@equationless}{equation}
11995     \LetLtxMacro{\endLWR@equationless}{endequation}
11996     \csletcs{\LWR@equationlessstar}{equation*}
11997     \csletcs{\LWR@endequationlessstar}{endequation*}
11998 }
```

### 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.

```

11999 \newcommand*{\displaymathnormal}{%
12000   \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12001   \LetLtxMacro{[\LWR@openbracketnormal}%
12002   \LetLtxMacro{]\LWR@closebracketnormal}%
12003   \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%
12004   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathnormal}%
12005   \LetLtxMacro{\equation}{\LWR@equationnormal}%
12006   \LetLtxMacro{\endequation}{\endLWR@equationnormal}%
12007   \csletcs{equation*}{\LWR@equationnormalstar}%
12008   \csletcs{endequation*}{\LWR@endequationnormalstar}%
12009 }
```

**\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.

```

12010 \newcommand*{\displaymathother}{%
12011   \boolfalse{mathjax}}%
12012   \LetLtxMacro{\displaymath}{\LWR@displaymathother}%
12013   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathother}%
12014   \LetLtxMacro{[\LWR@displaymathother}%
12015   \LetLtxMacro{]\endLWR@displaymathother}%
12016   \LetLtxMacro{\equation}{\LWR@equationother}%
12017   \LetLtxMacro{\endequation}{\endLWR@equationother}%
12018   \csletcs{equation*}{\displaymath}%
12019   \csletcs{endequation*}{\enddisplaymath}%
12020 }
```

```
12021 \end{warpHTML}
```

**for PRINT output:** 12022 \begin{warpprint}

Print-mode versions:

```

12023 \newcommand*{\displaymathnormal}{}%
12024 \newcommand*{\displaymathother}{}%
```

```
12025 \end{warpprint}
```

**for HTML output:** 12026 \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 it is used in an `amsmath` environment which is not a multiline environment and not an equation.

```
12027 \newbool{LWR@amsmultiline}
12028 \boolfalse{LWR@amsmultiline}
```

`\LWR@beginhideamsmath` Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
12029 \newcommand*{\LWR@beginhideamsmath}{
12030     \LWR@stoppars
12031     \LWR@origtilde\LWR@orignewline
12032     \LWR@htmlopencomment
12033
12034     \begingroup
12035     \LWR@restoreorigformatting
```

Temporarily prevent underfull `\hbox` warnings.

```
12036     \hbadness=10000\relax%
12037     \booltrue{LWR@insidemathcomment}
12038 }
```

`\LWR@endhideamsmath` Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
12039 \newcommand*{\LWR@endhideamsmath}{
12040     \endgroup
12041
12042     \LWR@htmclosecomment
12043     \boolfalse{LWR@insidemathcomment}
12044     \LWR@orignewline
12045     \LWR@startpars
12046 }
```

### 83.7.2 Environment patches

The `amsmath` environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an  $\mathcal{AMS}$  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  $\mathcal{AMS}$  environment.

For MATHJAX: Each environment is synched with LATEX's equation numbers, typeset with LATEX 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.

```
12047 \let\LWR@origeqnarray\eqnarray
12048 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12049 \newbool{\LWR@numbereqnarray}
12050 \booltrue{\LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from fancybox):

```
12051 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the LATEX expression:

```
12052 \ifboolexpr{\bool{mathjax} \or (\ bool{FormatWP} \and \bool{WPMarkMath} ) }%
12053 {%
```

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:

```
12054 \LWR@syncmathjax%
12055 \boolfalse{\LWR@amsmultiline}%
12056 \ifbool{\LWR@numbereqnarray}%
12057 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
12058 \LWR@beginhideamsmath%
12059 \LWR@origeqnarray%
12060 \BODY%
12061 \LWR@origendeqnarray%
12062 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
12063 \LWR@addmathjax{eqnarray}{\BODY}%
12064 }%
12065 { \% not \LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
12066 \LWR@addmathjax{eqnarray*}{\BODY}%
12067 } \% \LWR@numbereqnarray
```

```

12068      }% mathjax
12069      {%
12070          \ifbool{LWR@numbereqnarray}{%
12071              {%

```

For numbered SVG equations, first create a `\teximage` with an `alt` attribute containing sanitized copy of the source code:

```

12072          \begin{BlockClass}{displaymathnumbered}%
12073              \LWR@newautoidanchor%
12074              \booltrue{LWR@indisplaymathimage}%
12075          \begin{teximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
12076              \LWR@addmathjax{eqnarray}{\BODY}]*{math}%

```

Support for `xfakebold`:

```
12077          \LWR@applyxfakebold%
```

Create the image contents using an actual `eqnarray`:

```

12078          \LWR@origeqnarray%
12079          \BODY%
12080          \LWR@origendeqnarray%
12081          \end{teximage}%
12082          \end{BlockClass}%
12083      }%
12084  {%

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

12085          \begin{BlockClass}{displaymath}%
12086              \LWR@newautoidanchor%
12087              \booltrue{LWR@indisplaymathimage}%
12088          \begin{teximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*{math}%

```

Support for `xfakebold`:

```

12089          \LWR@applyxfakebold%
12090          \def\@eqncr{\nonumber\@seqncr}%
12091          \csuse{LWR@origeqnarray}%
12092          \BODY%
12093          \nonumber\csuse{LWR@origendeqnarray}%
12094          \end{teximage}%
12095          \end{BlockClass}%
12096      }% LWR@numbereqnarray
12097  }% not mathjax

```

Default to number equations in the future:

```
12098      \booltrue{LWR@numbereqnarray}%

```

Clear the single-use `alt` text:

```
12099     \gdef\LWR@ThisAltText{}%
12100 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
12101 \RenewEnviron{eqnarray}{%
12102 {%
12103 \LWR@eqnarrayfactor
12104 }%
12105 }%
```

The starred version is patched to turn off the numbering:

```
12107 \csgpreto{eqnarray*}{\boolfalse{\LWR@numbereqnarray}}
12108 \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:** 12109 `\begin{warpHTML}`

Ctr LWR@lateximagenumber Sequence the images.

```
12110 \newcounter{LWR@lateximagenumber}
12111 \setcounter{LWR@lateximagenumber}{0}
```

Ctr LWR@lateximagedepth Do not create `\lateximage` inside of `\lateximage`.

```
12112 \newcounter{LWR@lateximagedepth}
12113 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12114 \edef\LWR@hashmark{\string#} % for use in \write
12115 \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`.

```
12116 \newcounter{LWR@LIpage}
```

---

```
12117 \end{warpHTML}
```

### 84.3 Font size

**for HTML & PRINT:** 12118 \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.*

```
12119 \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.

```
12120 \newcommand*\{\LateximageFontSize\}{1}
```

```
12121 \end{warpall}
```

### 84.4 Equation numbers

**for HTML output:** 12122 \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.

```
12123 \newcounter{LWR@startingequation}
12124
12125 @ifundefined{chapter}
12126 {
12127 \renewcommand{\theLWR@startingequation}{%
12128     \arabic{LWR@startingequation}%
12129 }
12130 }
12131 {% chapter defined
12132 \renewcommand{\theLWR@startingequation}{%
12133     \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}. }{}%
12134     \arabic{LWR@startingequation}%
12135 }
12136 }
```

Bool LWR@isstartingequation True for the first equation tag, false for later tags in the same environment.

```
12137 \newbool{LWR@isstartingequation}
```

\LWR@startingequationtag Prints the starting equation number or tag.

```
12138 \let\theLWR@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`.

```
12139 \newcommand*{\LWR@equationtag}{}%
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12140 \AtBeginDocument{%
12141   \ifbool{mathjax}{}{%
12142     \global\boolfalse{LWR@isstartingequation}%
12143     \xdef\LWR@startingequationtag{\#1}%
12144   }%
12145 }
```

\LWR@remembertag {*tag*}

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12143 \NewDocumentCommand{\LWR@remembertag}{m}{%
12144   \ifbool{LWR@isstartingequation}{%
12145     \global\boolfalse{LWR@isstartingequation}%
12146     \xdef\LWR@startingequationtag{\#1}%
12147   }%
12148 }
```

```
12149 \xdef\LWR@equationtag{\#1}%
12150 }%
```

```
12151 }%
12152 }% AtBeginDocument
```

## 84.5 HTML alt tags

\LWR@amsmathbody {*envname*} For use inside the optional argument to a `\teximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12153 \newcommand*{\LWR@amsmathbody}[1]{%
12154   \textbackslash\begin\{\#1\} % extra space
12155   \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\@envbody}}%
12156   \textbackslash\end\{\#1\}%
12157 }
```

\LWR@amsmathbodynumbered {*envname*} 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.

```

12159 \newcommand{\LWR@amsmathbodynumbered}[1]
12160 {%
12161     \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}{%
12162         {(\LWR@equationtag)}{%
12163             {(\LWR@startingequationtag\textrandash\LWR@equationtag)} % extra space
12164         \LWR@amsmathbody{\#1} % extra space
12165     }

```

## 84.6 `lateximage` environment

`\LWR@lateximage@oneimageb {<1: alt text>} {<2: filename>} {<3: css style>} {<4: aria role>}` Creates the image for the `lateximage`.

```

12166 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12167     \LWR@subinlineimage{\#1}{\textrm{lateximage}}{%
12168     {%
12169         \LWR@print@mbox{%
12170             \LWR@ImagesDirectory\OSPathSymbol%
12171             \#2%
12172         }{%
12173             \textrm{svg}\{\#3\}\{\#4\}%
12174     }

```

`\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.

```

12175 \newcommand{\LWR@lateximage@oneimage}[5]{%
12176     \ifdefvoid{\LWR@ThisAltText}{%
12177         \IfBooleanTF{\#4}{%
12178             \LWR@lateximage@oneimageb{\#1}{\#2}{\#3}{\#5}{%
12179         }{%
12180             \LWR@lateximage@oneimageb{%
12181                 {\AltTextOpen\#1\AltTextClose}{%
12182                 \#2\#3\#5}{%
12183             }{%
12184         }{%
12185             \LWR@lateximage@oneimageb{%
12186                 {\AltTextOpen\LWR@ThisAltText\AltTextClose}{%
12187                 \#2\#3\#5}{%
12188             }{%
12189         }

```

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.

```
12190 \catcode`\$=\active%
12191
12192 \NewDocumentEnvironment{lateximage}{s 0{\ImageAltText} s 0{} 0{} D(){}}
12193 {%
12194 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12195 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested `lateximages` remain one large `lateximage`:

```
12196 \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`.

```
12197 {%
12198 %     \addtocounter{LWR@lateximagedepth}{1}%
12199     \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12200 }%
```

Otherwise, this is the outer-most `lateximage`:

```
12201 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```

12202  \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12203  \setcounter{LWR@startingequation}{\value{equation}}%
12204  \addtocounter{LWR@startingequation}{1}%
12205  \booltrue{LWR@isstartingequation}%
12206  \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by \tag:

```
12207  \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```

12208  \addtocounter{LWR@lateximagenumber}{1}%
12209  \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```
12210  \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12211  \LWR@ensuredoingapar%
```

Inside the lateximage, temporarily prevent underfull \hbox warnings.

```
12212  \hbadness=10000\relax%
```

Next file:

```

12213  \addtocounter{LWR@externalfilecnt}{1}%
12214  \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:

```

12215  \setcounterpageref{LWR@LIPage}{%
12216    LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12217 }%
12218 \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:

```

12219  \LWR@htmlltag{span\LWR@indentHTML%
12220    id=\textquotedbl{}%
12221      lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12222      \textquotedbl\LWR@indentHTML%
12223      class=\textquotedbl{}lateximagesource\textquotedbl\LWR@orignewline
12224 }%

```

Write instructions to the <ImagesDirectory>.txt file:

```
12225  \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
```

```
12226 \IfBooleanTF{#1}{ starred
12227 {%
```

Compute and save the hashed file name for later use:

```
12228 \ifdefvoid{\LWR@ThisAltText}{%
12229     \IfBooleanTF{#3}{%
1230         \edef\LWR@hashedname{%
1231             \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
1232         }%
1233     }{%
1234         \edef\LWR@hashedname{%
1235             \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
1236         }%
1237     }%
1238 }{%
1239     \edef\LWR@hashedname{%
1240         \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
1241     }%
1242 }%
1243 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```
12244 \immediate\write\LWR@lateximagesfile{%
12245     |\arabic{\LWR@LIPage}|true| \LWR@hashedname|%
12246     }%
12247 }% hash
12248 { % no hash
```

No hash, so write the page, no hashing, and the image number:

```
12249 \LWR@traceinfo{lateximage: hash false}%
12250 \immediate\write\LWR@lateximagesfile{%
12251     |\arabic{\LWR@LIPage}|false| \LWR@ImagesName\arabic{\LWR@externalfilecnt}|%
12252     }%
12253 }% no hash
```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```
12254 \LWR@traceinfo{lateximage: about to create open comment}%
12255 \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.

```
12256 \addtocounter{\LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```
12257 \LWR@traceinfo{lateximage: about to create a new page}%
12258 \LWR@maybe@orignewpage%
```

If the current page is larger, typeset the image in a “standard” width page and font size:

```
12259  \LWR@traceinfo{lateximage: about to create minipage}%
12260  \ifdimless{\linewidth}{6in}{%
12261      \LWR@print@minipage{\linewidth}%
12262  }{%
12263      \LWR@print@minipage{6in}%
12264  }%
12265  \nameuse{\LWR@print@\LateximageFontSizeName}
```

Temporarily restore formatting to its **PDF** definitions: Do not produce **HTML** tags for **\hspace**, etc. inside a **lateximage**.

```
12266  \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12267  \LWR@restoreorigformatting%
```

Use full-page footnotes instead of minipage footnotes. These become **HTML** footnotes.

```
12268  \def\@mpfn{footnote}%
12269  \def\thempfn{\thefootnote}%
12270  \LetLtxMacro\@footnotetext{\LWR@footnotetext}%
```

Create the **LWR<sub>1</sub> lateximage<number>** label:

```
12271  \LWR@traceinfo{lateximage: about to create label}%
12272  \LWR@orig@label{\LWRlatximage-\BaseJobname-\arabic{\LWR@latximagenumber}}%
12273  \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match **HTML**:

```
12274  \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
12275      \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12276  }%
```

Enable print-mode math functions:

```
12277  \LetLtxMacro$\LWR@origdollar%
12278  \catcode`\$=3% math shift
12279  \LetLtxMacro\(\LWR@origopenparen%
12280  \LetLtxMacro\)\LWR@origcloseparen%
```

Only enable print-mode display math if are not already inside display math:

```
12281  \ifbool{\LWR@indisplaymathimage}{}{%
12282      \LetLtxMacro\[{\LWR@origopenbracket}%
12283      \LetLtxMacro\]{\LWR@origclosebracket}%
12284      \let\equation\LWR@orig@equation%
12285      \let\endequation\LWR@orig@endequation%
12286      \csletcs{equation*}{\LWR@orig@equation*}%
12287      \csletcs{endequation*}{\LWR@orig@endequation*}%
12288  }{%
12289  }% not in display math
```

For chemformula:

```

12289     \LetLtxMacro{\LWR@newsingledollar$}
12290     \LetLtxMacro{\LWR@newsingledollar$} syntax highlighting

12291 }% end of outer-most lateximage
12292 \LWR@traceinfo{lateximage: finished start of environment}%
12293 }% end of \begin{lateximage}
```

\end{lateximage} When the lateximage environment closes:

```

12294 { % start of \end{lateximage}
12295 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```

12296 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12297 \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.

```

12298 { %
12299     \LWR@traceinfo{lateximage: unnesting}%
12300     \global\advance\c@LWR@lateximagedepth -1\relax%
12301 }%
```

If this is the outer-most lateximage:

```
12302 { % end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```

12303 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12304     \endLWR@print@minipage%
12305     \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```

12306     \LWR@print@vspace*{.5\baselineskip}%
12307     \LWR@htmlclosecomment%
12308     \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```

12309     \IfBooleanTF{#1}{ starred
12310     {%
12311         \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}{#6}%
12312     }%
12313     {%
12314         \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}{#6}%
12315     }%
12316 }
```

Be sure that are doing a paragraph:

```
12316 \LWR@ensuredoingapar%
```

Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
12317 \LWR@htmlltag{/span}%
12318 \ifbool{HTMLDebugComments}{%
12319   \LWR@htmlcomment{End of lateximage}%
12320 }{}%
```

Undo one lateximage level. This is not inside an *AMS* \text, so regular \addtocounter may be used here.

```
12321 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12322 \gdef\LWR@ThisAltText{}%
12323 }% end of outer-most lateximage
12324 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12325 \LWR@traceinfo{lateximage: done}%
12326 }%
12327 \catcode`\$=3% math shift
12328 \end{warpHTML}
```

**for PRINT output:** 12329 \begin{warpprint}

Env lateximage \* [<alt> tag] \* [<add'l hashing>] [<css style>]

varwidth is used to create a box of the natural width of its contents.

```
12330 \NewDocumentEnvironment{lateximage}{s o s o o d()}
12331   {\begin{varwidth}[b]{\linewidth}}
12332   {\end{varwidth}}
12333 \end{warpprint}
```

## 85 center, flushleft, flushright

**for HTML output:** 12334 \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.

```
12335 \newenvironment*{\LWR@HTML@center}%
12336 {%
12337   \LWR@forcenewpage%
```

```
12338 \ifbool{FormatWP}{%
12339   {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}{%
12340     {\BlockClass{center}}{%
12341   }{%
12342   }{%
12343   }{%
12344 \LWR@formattede{center}}
```

Env **flushright**

```
12345 \newenvironment*{\LWR@HTML@flushright}{%
12346 {%
12347   \LWR@forcenewpage{%
12348   \ifbool{FormatWP}{%
12349     {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}{%
12350       {\BlockClass{flushright}}{%
12351     }{%
12352   }{%
12353   }{%
12354 \LWR@formattede{flushright}}
```

Env **flushleft**

```
12355 \newenvironment*{\LWR@HTML@flushleft}{%
12356 {%
12357   \LWR@forcenewpage{%
12358   \ifbool{FormatWP}{%
12359     {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}{%
12360       {\BlockClass{flushleft}}{%
12361     }{%
12362   }{%
12363   }{%
12364 \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

```
12365 \newcommand*{\LWR@HTML@centering}{%
12366   \ifbool{HTMLDebugComments}{%
12367     \LWR@htmlcomment{centering}}{%
12368   }{%
12369 }{%
12370 \LWR@formattede{centering}}
```

\raggedleft

```
12371 \newcommand*{\LWR@HTML@raggedleft}{%
12372   \ifbool{HTMLDebugComments}{%
12373     \LWR@htmlcomment{raggedleft}}{%
```

```

12374      (){%
12375  }
12376 \LWR@formatted{raggedleft}

\raggedright

12377 \newcommand*\LWR@HTML@raggedright}{%
12378   \ifbool{HTMLDebugComments}{%
12379     \LWR@htmlcomment{raggedright}%
12380   }{%
12381 }
12382 \LWR@formatted{raggedright}

\leftline {\langle text\rangle}

12383 \renewcommand{\leftline}[1]{\begin{flushleft}\#1\end{flushleft}}


\centerline {\langle text\rangle}

12384 \renewcommand{\centerline}[1]{\begin{center}\#1\end{center}}


\rightline {\langle text\rangle}

12385 \renewcommand{\rightline}[1]{\begin{flushright}\#1\end{flushright}}


12386 \end{warpHTML}

```

## 86 Preloaded packages

**for HTML output:** 12387 \begin{warpHTML}

If the given package was loaded before or by lwarp, load the lwarp version as well.

```

\LWR@PreloadedPackage {\langle packagename\rangle}

12388 \newcommand*\LWR@PreloadedPackage}[1]{%
12389   \@ifpackageloaded{#1}{%
12390     {%
12391       \AtBeginDocument{%
12392         \LWR@origRequirePackage{lwarp-#1}%
12393       }%
12394     }%
12395   }%
12396 }

```

If `inputrc` was loaded before `lwarp`, as is usually done, explicitly load the lwarp patches now:

```
12397 \LWR@PreloadedPackage{inputrc}
```

If **textcomp** was loaded before **l warp**, perhaps as part of the font-related packages, explicitly load the l warp patches now:

12398 \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:

12399 \LWR@PreloadedPackage{xunicode}

If **graphics** or **graphicx** were loaded before **l warp**, perhaps by **xunicode**, explicitly load the l warp patches now:

12400 \LWR@PreloadedPackage{graphics}  
12401 \LWR@PreloadedPackage{graphicx}

**scalefnt** may have been preloaded by **babel**

12402 \LWR@PreloadedPackage{scalefnt}

**fontaxes** must be preloaded so that **l warp** may patch it for **HTML**.

12403 \LWR@PreloadedPackage{fontaxes}

Various font packages which may be loaded before **l warp**:

12404 \LWR@PreloadedPackage{cmbright}  
12405 \LWR@PreloadedPackage{fourier}  
12406 \LWR@PreloadedPackage{kpfonts}  
12407 \LWR@PreloadedPackage{kpfonts-otf}  
12408 \LWR@PreloadedPackage{libertinust1math}  
12409 \LWR@PreloadedPackage{pxfonts}  
12410 \LWR@PreloadedPackage{txfonts}  
12411 \LWR@PreloadedPackage{txgreeks}  
12412 \LWR@PreloadedPackage{newpxmath}  
12413 \LWR@PreloadedPackage{newtxmath}  
12414 \LWR@PreloadedPackage{newtxsf}  
12415 \LWR@PreloadedPackage{mathalpha}  
12416 \LWR@PreloadedPackage{unicode-math}

**nfssext-cfr** may be preloaded by **cfm-lm** or related font packages.

12417 \LWR@PreloadedPackage{nfssext-cfr}

**ulem** may be preloaded by **ctex**, **ctexart**, and related classes.

12418 \LWR@PreloadedPackage{ulem}

12419 \LWR@PreloadedPackage{xetexko}

**geometry** is preloaded by **l warp**, and perhaps by various classes.

12420 \LWR@PreloadedPackage{geometry}

`plexit` is preloaded by some CJK classes.

```
12421 \LWR@PreloadedPackage{plexit}
```

`stfloats` is preloaded by `ltj*` classes.

```
12422 \LWR@PreloadedPackage{stfloats}
```

`lltjext` is preloaded by `ltj*` classes.

```
12423 \LWR@PreloadedPackage{lltjext}
```

`luatexko` must be loaded before `lwarp`.

```
12424 \LWR@PreloadedPackage{luatexko}
```

```
12425 \end{warpHTML}
```

## 87 siunitx

**Pkg** `siunitx` The `lwarp` 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` columns are rendered as simple `c` columns, and tabular `s` columns are not supported. 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, `lwarp` 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 `lwarp-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:** 12426 `\begin{warpHTML}`

Options for siunitx:

```
12427 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12428 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12429 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
12430 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
12431 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}}
12432
12433 \appto{\LWR@restoreorigformatting}{%
12434 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
12435 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12436 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{'}}}%
12437 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{''}}}}%
12438 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}}%
12439 }
12440
12441 \PassOptionsToPackage{
12442   detect-mode=true,
12443   per-mode=symbol,% fraction is not seen by pdftotext
12444   text-celsius = {\LWR@siunitx@textcelsius},
12445   text-degree = {\LWR@siunitx@textdegree},
12446   text-arcminute = {\LWR@siunitx@textprime},
12447   text-arcsecond = {\LWR@siunitx@textdblprime},
12448 }{siunitx-v2}

12449 \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.

**⚠ case sensitive**

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 lwarp cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with lwarp. 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 Prog epstopdf epstopdf package** 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.

**⚠ 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 `l warp`—the entire image will be shown.

**⚠ viewport**  
**⚠ viewport 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:

```
12450 \begin{warpprint}
12451 \define@key{Gin}{class}{}%
12452 \define@key{Gin}{alt}{}%
```

Print-mode additions for the `overpic` package. See section 455 for the `HTML` version.

```
12453 \AtBeginDocument{%
12454 \@ifpackageloaded{overpic}{%
12455 \newcommand*\overpicfontsize{12}%
12456 \newcommand*\overpicfontskip{14}%
12457 }{}%
12458 }%
12459 \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:** 12460 `\begin{warpall}`

After `xparse` may have been loaded ...

12461 `\AtBeginDocument{`

... and *only* if `xcolor` was loaded:

```
12462 \@ifpackageloaded{xcolor}{  
12463 \LWR@traceinfo{patching xcolor}}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

12464 `\LetLtxMacro\colorboxBlock\colorbox`

The original definition is reused by the new versions:

12465 `\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`.)

```
12466 \newsavebox{\LWR@colorminipagebox}  
12467  
12468 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%  
12469 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4} %
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12470 \begin{lrbox}{\LWR@colorminipagebox} %  
12471 #5%  
12472 \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.

```

12473 \ifstreq{#4}{none}%
12474 {%
12475   \LWR@traceinfo{background is none}%
12476   {%
12477     \colorlet{\LWR@currentcolor}{.}%
12478     \color{#2}%
12479     \fbox{%
12480       \color{\LWR@currentcolor}%
12481       \usebox{\LWR@colorminipagebox}%
12482     }%
12483   }%
12484 }%
12485 {%
12486 \LWR@traceinfo{background not none}%
12487 \IfValueTF{#1}%
12488 {%
12489   \IfValueTF{#3}%
12490   {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12491   {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
12492 }%
12493 {%
12494   \IfValueTF{#3}%
12495   {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
12496   {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12497 }%
12498 }%
12499 \LWR@traceinfo{\LWR@print@fcolorbox done}%
12500 }%
12501 \renewrobustcmd*\fcolorbox{\LWR@print@fcolorbox}%

```

\fcolorboxBlock [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```
12502 \newcommand*\fcolorboxBlock{\LWR@print@fcolorbox}
```

```
12503 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}
```

Env fcolorminipage [⟨1:framemode⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩] [⟨7:inner-align⟩] {⟨8:width⟩}

In print mode, becomes a \fcolorbox containing a minipage:

```

12504 \NewDocumentEnvironment{\LWR@print@fcolorminipage}{o m o m O{c} O{} o m}
12505 {%
12506 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
12507 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```

12508 \IfValueTF{#7}%
12509 {\begin{minipage}[#5][#6][#7]{#8}}%
12510 {\begin{minipage}[#5][#6][#5]{#8}}%
12511 }%
12512 {%
12513 \end{minipage}%
12514 \end{lrbox}%
12515 \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.

```

12516 \ifstrequal{#4}{none}%
12517 {%
12518   #4 none
12519   {%
12520     \colorlet{\LWR@currentcolor}{.}%
12521     \color{#2}%
12522     \fbox{%
12523       \color{\LWR@currentcolor}%
12524       \usebox{\LWR@colorminipagebox}%
12525     }%
12526   }%
12527   #4 none
12528   \IfValueTF{#1}%
12529   {%
12530     \IfValueTF{#3}%
12531     {\LWR@orig@print@fcolorbox[#1][#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
12532     {\LWR@orig@print@fcolorbox[#1][#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12533   }%
12534   {%
12535     \IfValueTF{#3}%
12536     {\LWR@orig@print@fcolorbox[#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
12537     {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
12538   }%
12539   #4 none
12540 \LWR@traceinfo{*** finished end fcolorminipage}%
12541 }%
12542 \NewDocumentEnvironment{fcolorminipage}{}%
12543   {\LWR@print@fcolorminipage}%
12544   {\endLWR@print@fcolorminipage}%
12545 \LWR@traceinfo{xcolor patches done}%
12546 }{%
12547 }%
12548 \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:** 12549 `\begin{warpprint}`

```
12550 \AtBeginDocument{  
12551 \@ifpackageloaded{chemmacros}{
```

Env `polymerdelims`

```
12552 \DeclareDocumentEnvironment{polymerdelims}{}  
12553 {}{}
```

Env `redoxreaction` {*<space above>*} {*<space below>*}

For print output, extra space is include 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 [191.4](#).

```
12554 \DeclareDocumentEnvironment{redoxreaction}{m m}  
12555   {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}
```

```
12556 }{}% chemmacros  
12557 }% AtBeginDocument
```

```
12558 \end{warpprint}
```

## 91 cleveref

**loading order** cleveref and lwarp-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 lwarp 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 lwarp'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:** 12559 `\begin{warpHTML}`

```
12560  
12561 \AtEndPreamble{  
12562   \RequirePackage{cleveref}}
```

---

```
12563 }
12564
12565 \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:**

```
12566 \begin{warpHTML}
12567
12568 \LetLtxMacro{\LWR@orig}{\label}\label% includes memoir, before cleveref
12569 \LetLtxMacro{\label}{\LWR@new}{\label}
12570
12571 \LetLtxMacro{\LWR@orig}{\pageref}\pageref
12572 \LetLtxMacro{\pageref}{\LWR@new}{\pageref}
12573
12574 \end{warpHTML}
```

## 93 picture environment

`Env picture` The picture environment is enclosed inside a \latextimage.

**for HTML output:**

```
12575 \begin{warpHTML}
```

`Env picture`

```
12576 \BeforeBeginEnvironment{picture}{\begin{latextimage}[picture]}
12577
12578 \AfterEndEnvironment{picture}{\end{latextimage}}
12579 \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, \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 <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 × 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, multicol** Inside a tabular or multicol 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.

**⚠ multicol** Inside a multicol, \ 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:** 12580 \begin{warpHTML}

## 94.1 Computed lengths

Len \LWR@minipagewidth Used to convert the width into printable units.

12581 \newlength{\LWR@minipagewidth}

Len \LWR@minipageheight Used to convert the height into printable units.

12582 \newlength{\LWR@minipageheight}

## 94.2 Virtual page size

Ctr `LWR@virtualpagedepth` Used to only reset the line width at the outermost minipage.

```
12583 \newcounter{LWR@virtualpagedepth}
12584 \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.

```
12585 \NewDocumentEnvironment{LWR@setvirtualpage}{s 0{1}}{%
12586     \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12587         \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12588         \setlength{\linewidth}{6in/#2}%
12589         \setlength{\textwidth}{6in}%
12590         \setlength{\textheight}{9in}%
12591     }{}%
12592     \addtocounter{LWR@virtualpagedepth}{1}%
12593 }
12594 {\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?

```
12595 \newbool{LWR@minipagefullwidth}
12596 \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`.

```
12597 \newbool{LWR@forceminipagefullwidth}
12598 \boolefalse{LWR@forceminipagefullwidth}
```

`\minipagefullwidth` Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12599 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

\UseMinipageWidths Locally requests that minipage widths be honored.

12600 \newcommand\*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

12601 \newcommand\*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}  
12602 \end{warpHTML}

**for PRINT output:** 12603 \begin{warpprint}  
12604 \newcommand\*{\minipagefullwidth}{}  
12605 \newcommand\*{\UseMinipageWidths}{}  
12606 \newcommand\*{\IgnoreMinipageWidths}{}  
12607 \end{warpprint}

**for HTML output:** 12608 \begin{warpHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

12609 \newbool{LWR@minipagethispar}  
12610 \boolfalse{LWR@minipagethispar}

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.

12611 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}  
12612 %  
12613 \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.

12614 \begin{LWR@setvirtualpage}\*

Save the requested width now that \linewidth, etc. are adjusted to virtual size.

12615 \setlength{\LWR@minipagewidth}{#4}%  
12616 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%  
12617 \addtolength{\LWR@minipagewidth}{3em}% room for frames  
12618 }{}%  
12619 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%

Compute height:

```
12620 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
12621 \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.

```
12622 \ifbool{FormatWP}{\newline}{}%
12623 \LWR@stopars%
```

If FormatWP, add a text frame:

```
12624 \ifbool{FormatWP}{%
12625
12626 \addtocounter{\LWR@thisautoidWP}{1}%
12627 \LWR@htmltag{%
12628     div id=\textquotedbl%
12629         \LWR@print@mbox{autoidWP-\arabic{\LWR@thisautoidWP}}%
12630     \textquotedbl\ % space
12631     class=\textquotedbl{}wpminipage\textquotedbl%
12632 }%
12633
12634 }{}}
```

Create the <div> tag with optional alignment style:

```
12635 \LWR@traceinfo{minipage: creating div class}%
12636 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
12637 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{}%
12638 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{}%
12639 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{}%
12640 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{}%
12641 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{}%
12642 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{}%
12643 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{}%
```

Print the width and optional height styles:

```
12644 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12645 \ifbool{\LWR@minipagefullwidth}%
12646 {\global\boolfalse{\LWR@minipagefullwidth}}%
12647 %
12648 \ifbool{\LWR@forceminipagefullwidth}%
12649   {}%
12650   {}%
12651   \ifdim\#4=\linewidth{}%
12652   {}%
12653   {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12654   {}%
12655 }%
12656 \LWR@traceinfo{minipage: about to print the height}%
12657 \ifblank{#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
```

```
12658 \textquotedbl%
12659 }%
```

Finish with an empty line to start the contents on a new line.

```
12660
12661 % 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.

```
12662 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{%
12663     \addtolength{\LWR@minipagewidth}{-3em}%
12664 }{%
12665 \setlength{\linewidth}{\LWR@minipagewidth}%
}
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
12666 \LWR@print@raggedright%
```

```
12667     \LWR@newautopagelabel{page}%

```

Set minipage footnotes:

```
12668 \def\@mpfn{mpfootnote}%
12669 \def\@thempfn{\thempfootnote}\c@mpfootnote\z@%
12670 \let\@footnotetext\@mpfootnotetext%
```

Resume paragraph tag handling for the contents of the minipage:

```
12671 \LWR@startpars%
12672 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12673
12674 === begin minipage ===
12675
12676 }{%
12677 \LWR@traceinfo{minipage: finished starting the minipage}%
12678 }% finished \minipage
12679 {%
12680 \endminipage
```

Print pending minipage footnotes:

```
12680 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
12681 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12682
12683 === end minipage ===
12684 }
```

```

12685 }{ }%
12686 \LWR@stoppars%
12687
12688 \ifbool{FormatWP}{%
12689
12690 \LWR@htmlelementend{div}%
12691
12692 }{ }%
12693 \LWR@htmldivclassend{minipage}%
12694
12695 \end{LWR@setvirtualpage}%
12696 \LWR@startpars%
12697 \ifbool{FormatWP}{\newline}{ }%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12698 \global\booltrue{LWR@minipagethispar}%
12699 \LWR@traceinfo{LWR@minipage: done}%
12700 }
12701
12702 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
12703   {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12704   {\endlWR@HTML@sub@minipage}
12705
12706 \LWR@formattedenv{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:

```

12707 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
12708 {
12709 \LWR@traceinfo{parbox of width #4}%
12710 \begin{minipage}[#1][#2][#3]{#4}%
12711 #5
12712 \end{minipage}%
12713 }
12714
12715 \LWR@formatted{parbox}

```

\mbox {⟨text⟩} Nullified for HTML.

```

12716 \newcommand*{\LWR@HTML@mbox}[1]{{#1}}
12717
12718 \LWR@formatted{mbox}

```

\LWR@@makebox@paren {⟨width⟩} , {⟨height⟩}

Adds to the style in \LWR@temptwo.

```

12719 \NewDocumentCommand{\LWR@@makebox@paren}{m m}{%
12720 \IfValueTF{#2}{%
12721   \setlength{\LWR@tempwidth}{#1\unitlength}%
12722   \setlength{\LWR@tempheight}{#2\unitlength}%
12723   \appto{\LWR@temptwo}{%
12724     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12725     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12726   }%
12727 }{%
12728   \PackageError{lwarf}%
12729     {(\width,\height) is missing a comma ',' character}%
12730     {\protect\makebox\space and \protect\framebox\space accept
12731       a size in the format (\width,\height).}%
12732 }%
12733 }
```

\LWR@@makebox@align {<alignment character>}

Adds to the style in \LWR@temptwo.

```

12734 \newcommand*{\LWR@@makebox@align}[1]{%
12735   \def\LWR@align{center}%
12736   \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
12737   \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
12738   \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
12739   \appto{\LWR@temptwo}{%
12740     \LWR@print@mbox{text-align:\LWR@align} ; %
12741   }%
12742 }
```

\makebox (<width,height>) [<width>] [<pos>] {<text>}

```
12743 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}d() o o +m}{%
```

Build the style depending on arguments:

```

12744   \begin{\LWR@setvirtualpage}%
12745     \def\LWR@temptwo{}%
12746     \IfValueTF{#1}{%
12747       {(\width,\height) ..%
12748         \LWR@@makebox@paren #1%
12749         \IfValueT{#2}{%
12750           {(\width,\height) [posn]%
12751             \LWR@@makebox@align{#2}%
12752           }%
12753         }%
12754         { [width]%
12755           \IfValueT{#2}{ [width]%
12756             {%
12757               \setlength{\LWR@tempwidth}{#2}%
12758               \ifdimgreater{\LWR@tempwidth}{0pt}{%
```

```

12759           \appto{\LWR@temptwo}{%
12760             width:\LWR@printlength{\LWR@tempwidth} ; % space
12761           }%
12762           }{ }%
12763           }%
12764           }%
12765           \IfValueT{#3}{%
12766             {%
12767               \LWR@makebox@align{#3}%
12768             }%
12769             \InlineClass[%
12770               \LWR@print@mbox{display:inline-block} ; %
12771               \LWR@temptwo%
12772             ]%
12773             {makebox}%
12774             {#4}%
12775           \end{\LWR@setvirtualpage}%
12776         }
12777 \LWR@formatted{makebox}

```

\framebox (<width,height>) [<width>] [<pos>] {<text>}

```

12778 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12779   \fbox{\makebox[#1][#2][#3]{#4}}%
12780 }
12781
12782 \LWR@formatted{framebox}

```

\LWR@forceminwidth {<length>}

Sets \LWR@atleastonept to be at least 1pt.

```

12783 \newlength{\LWR@atleastonept}
12784
12785 \newcommand*{\LWR@forceminwidth}[1]{%
12786   \setlength{\LWR@atleastonept}{#1}%
12787   \ifthenelse{%
12788     \lengthtest{\LWR@atleastonept>0pt}\AND%
12789     \lengthtest{\LWR@atleastonept<1pt}%
12790   }{%
12791     \setlength{\LWR@atleastonept}{1pt}%
12792   }%
12793 }

```

\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.

```

12794 \newcommand*{\LWR@fboxstyle}{%
12795 \LWR@findcurrenttextcolor%
12796 \LWR@traceinfo{\LWR@fboxstyle B}%
12797 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12798 padding:\LWR@printlength{\fboxsep} ; %

```

---

```
12799 color:\LWR@origpound\LWR@tempcolor%
12800 }
```

\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:

```
12801 \newcommand{\LWR@HTML\fbox}[1]{%
12802 \LWR@traceinfo{HTML \fbox}%
12803 \LWR@forceminwidth{\fboxrule}%
12804 \LWR@traceinfo{HTML \fbox B}%
12805 \InlineClass[%%
12806     \LWR@print@mbox{display:inline-block} ; %
12807     \LWR@fboxstyle%
12808 ]{\fbox}{#1}%
12809 \LWR@traceinfo{HTML \fbox: done}%
12810 }
```

xcolor \lets things to \fbox when it is loaded, and this must remain even for HTML output while in a `\teximage`, so \fbox is not modified until \AtBeginDocument:

```
12811 \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:**

```
12812 \end{warpHTML}%
12813 \begin{warpall}%
12814 \let\fboxBlock\fbox%
12815 \end{warpall}%
12816%
12817 \begin{warpHTML}
```

**for HTML output:** Next, an HTML version:

```
12818 \newcommand{\LWR@HTML\fboxBlock}[1]{%
12819 \LWR@forceminwidth{\fboxrule}%
12820 \LWR@stoppars%
12821 \begin{BlockClass}[%%
12822 \LWR@fboxstyle%
12823 ]{\fboxBlock}%
12824 #1%
12825 \end{BlockClass}%
12826 \LWR@startpars%
12827 }%
12828%
12829 \LWR@formatted{\fboxBlock}%
12830%
12831 \end{warpHTML}
```

---

```
Env fminipage [<align>] [<height>] [<align>] {<width>}
```

Creates a framed HTML <div> around its contents.

**for HTML & PRINT:** Print version:

```
12832 \begin{warpall}
12833
12834 \newsavebox{\LWR@fminipagebox}
12835
12836 \NewDocumentEnvironment{\LWR@print@fminipage}{O{t} o O{t} m}
12837 {%
```

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:

```
12838 \IfValueTF{#3}%
12839 {\def\LWR@thisalign{#3}}
12840 {\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.

```
12841 \IfValueTF{#2}%
12842 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
12843 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
12844 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
12845 \IfValueTF{#2}%
12846 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12847 {\minipage[#1]{#4}}%
12848 }
12849 {%
```

Close the inner minipage and the LR box with the contents:

```
12850 \endminipage%
12851 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12852 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12853 \endminipage%
12854 }
```

```

12855
12856 \LetLtxMacro\fminipage\LWR@print\fminipage
12857 \LetLtxMacro\endfminipage\endLWR@print\fminipage
12858 % \newenvironment{fminipage}{\LWR@print\fminipage}{\endLWR@print\fminipage}
12859
12860 \end{warpall}

```

HTML version:

```

for HTML output: 12861 \begin{warpHTML}
12862
12863 \NewDocumentEnvironment{\LWR@HTML\fminipage}{O{t} o O{t} m}
12864 {%
12865 \LWR@traceinfo{fminipage #1 #2 #3 #4}%

```

Locally change to the virtual page size before processing the requested sizes:

```

12866 \begin{LWR@setvirtualpage}*
12867 \setlength{\LWR@tempwidth}{#4}%
12868 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%

```

Use a rule of at least one pixel in width:

```

12869 \LWR@forceminwidth{\fboxrule}%
12870 \LWR@stoppars%
12871 \begin{BlockClass}[% 
12872 \LWR@fboxstyle ; %
12873 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
12874 \ifbool{\LWR@minipagefullwidth}%
12875 {\global\boolfalse{\LWR@minipagefullwidth}}%
12876 {%
12877 \ifbool{\LWR@forceminipagefullwidth}%
12878 {}%
12879 {%
12880 \ifdimequal{\LWR@tempwidth}{\ linewidth}%
12881 {}%
12882 {width:\LWR@printlength{\LWR@tempwidth} ; }%
12883 }%
12884 }%
12885 ]{fminipage}%
12886 }
12887 {%
12888 \end{BlockClass}%
12889 \end{LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12890 \global\booltrue{\LWR@minipagethispar}%
12891 \LWR@traceinfo{fminipage done}%
12892 }%
12893

```

---

```

12894 \LWR@formattede{fminipage}

\raisebox {\raiselen} [\height] [\depth] {\text}

12895 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12896 #4%
12897 }%
12898
12899 \LWR@formattede{raisebox}

12900 \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:** 12901 `\begin{warpall}`

**Bool FixSmallCaps** User may set `FixSmallCaps` to true if small caps are being incorrectly rendered as all caps.

```

12902 \newbool{FixSmallCaps}
12903 \boolfalse{FixSmallCaps}

12904 \end{warpall}

```

**for HTML output:** 12905 `\begin{warpHTML}`

```

\emph {\text}

12906 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12907   {%
12908     \LWR@HTML@itshape%
12909     \LWR@htmlspan{em}{#1}%
12910   }%
12911 }%
12912
12913 \LWR@formattede{emph}

```

```
\textmd  {\langle text\rangle}

12914 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
12915   {%
12916     \LWR@HTML@mdseries%
12917     \InlineClass{font-weight:normal}{textmd}{#1}%
12918   }%
12919 }
12920
12921 \LWR@formatted{textmd}

\textbf  {\langle text\rangle}

12922 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
12923   {%
12924     \LWR@HTML@bfseries%
12925     \LWR@htmlspan{b}{#1}%
12926   }%
12927 }
12928
12929 \LWR@formatted{textbf}

\texteb  {\langle text\rangle}      From nbssext-cfr.

12930 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
12931   {%
12932     \LWR@HTML@ebweight%
12933     \InlineClass{texteb}{#1}%
12934   }%
12935 }
12936
12937 \LWR@formatted{texteb}

\textlg  {\langle text\rangle}      From nbssext-cfr.

12938 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
12939   {%
12940     \LWR@HTML@lgweight%
12941     \InlineClass{textlg}{#1}%
12942   }%
12943 }
12944
12945 \LWR@formatted{textlg}

\textrm  {\langle text\rangle}

12946 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
12947   {%
12948     \LWR@HTML@rmfamily%
12949     \InlineClass{font-family:serif}{textrm}{#1}%
12950   }%
12951 }
```

```
12952
12953 \LWR@formatted{textrm}

\textsf {⟨text⟩}

12954 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
12955   {%
12956     \LWR@HTML@sffamily%
12957     \InlineClass(font-family:sans){textsf}{#1}%
12958   }%
12959 }
12960
12961 \LWR@formatted{textsf}

\texttt {⟨text⟩}

12962 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
12963   {%
12964     \LWR@HTML@ttfamily%
12965     \LWR@html\span{kbd}{#1}%
12966   }%
12967 }
12968
12969 \LWR@formatted{texttt}

\textup {⟨text⟩}

12970 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
12971   {%
12972     \LWR@HTML@upshape%
12973     \InlineClass(font-style:normal){textup}{#1}%
12974   }%
12975 }
12976
12977 \LWR@formatted{textup}

\textit {⟨text⟩}

12978 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
12979   {%
12980     \LWR@HTML@itshape%
12981     \LWR@html\span{i}{#1}%
12982   }%
12983 }
12984
12985 \LWR@formatted{textit}

\textsc {⟨text⟩}

12986 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
12987   {%
12988     \LWR@HTML@scshape%
```

```
12989      \InlineClass{textsc}{#1}%
12990      }%
12991 }
12992
12993 \LWR@formatted{textsc}

\textulc  {\langle text\rangle}    From fontaxes.

12994 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
12995   {%
12996     \LWR@HTML@ulcshape%
12997     \InlineClass{textulc}{#1}%
12998   }%
12999 }
13000
13001 \LWR@formatted{textulc}

\textsi   {\langle text\rangle}

13002 \@ifundefined{textsi}{
13003   \LetLtxMacro{\LWR@print@textsi}{\LWR@print@textsc}
13004 }{%
13005
13006 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
13007   {%
13008     \LWR@HTML@sishape%
13009     \textsc{\textit{\#1}}%
13010 %       \InlineClass(
13011 %         font-style: italic;
13012 %         font-variant: small-caps ;
13013 %         font-variant-numeric: oldstyle-nums ;
13014 %       ){\textsi{\#1}}%
13015   }%
13016 }
13017
13018 \LWR@formatted{textsi}

\textsl   {\langle text\rangle}

13019 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13020   {%
13021     \slshape%
13022     \InlineClass(font-style:oblique){textsl}{#1}%
13023   }%
13024 }
13025
13026 \LWR@formatted{textsl}

\textssc  {\langle text\rangle}

13027 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{\#1}}
13028 \LWR@formatted{textssc}
```

```
\textnormal {<text>}

13029 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
13030
13031 \LWR@formatted{textnormal}

13032 \filenameNullify{%
13033   \LetLtxMacro{\emph}{\firstofone}%
13034   \LetLtxMacro{\textmd}{\firstofone}%
13035   \LetLtxMacro{\textbf}{\firstofone}%
13036   \LetLtxMacro{\texteb}{\firstofone}%
13037   \LetLtxMacro{\textlg}{\firstofone}%
13038   \LetLtxMacro{\textrm}{\firstofone}%
13039   \LetLtxMacro{\textsf}{\firstofone}%
13040   \LetLtxMacro{\texttt}{\firstofone}%
13041   \LetLtxMacro{\textup}{\firstofone}%
13042   \LetLtxMacro{\textit}{\firstofone}%
13043   \LetLtxMacro{\textsc}{\firstofone}%
13044   \LetLtxMacro{\textulc}{\firstofone}%
13045   \LetLtxMacro{\textsi}{\firstofone}%
13046   \LetLtxMacro{\textsl}{\firstofone}%
13047   \LetLtxMacro{\textssc}{\firstofone}%
13048   \LetLtxMacro{\textnormal}{\firstofone}%
13049 }
```

Remembers the current font family, series, and shape. **fontaxes** support is integrated here.

```
13050 \newcommand*{\LWR@f@family}{rm}
13051 \newcommand*{\LWR@f@series}{md}
13052 \newcommand*{\LWR@f@shape}{up}
13053 \newcommand*{\LWR@f@shapecaps}{ulc}
```

\LWR@textcurrentfont {<text>}

Prints the text with the current font choices. Avoids nesting repeated font selections.

```
13054 \newcounter{LWR@textcurrentfontdepth}
13055 \setcounter{LWR@textcurrentfontdepth}{0}
13056
13057 \newcommand*{\LWR@textcurrentfont}[1]{%
13058   \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}{%
13059     {%
13060       \addtocounter{LWR@textcurrentfontdepth}{1}%
13061       #1%
13062       \addtocounter{LWR@textcurrentfontdepth}{-1}%
13063     }%
13064     {%
13065       \addtocounter{LWR@textcurrentfontdepth}{1}%
13066       \InlineClass{%
13067         text\LWR@f@family\LWR@origtilde{}%
13068         text\LWR@f@series\LWR@origtilde{}%
13069         text\LWR@f@shape\LWR@origtilde{}%
13070         text\LWR@f@shapecaps%}}
```

---

```

13071          }%
13072          {#1}%
13073          \addtocounter{LWR@textcurrentfontdepth}{-1}%
13074          }%
13075 }
```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```

13076 \newenvironment*{LWR@blocktextcurrentfont}{%
13077 \LWR@stoppars%
13078 \BlockClass{%
13079     text\LWR@f@family\LWR@origtilde{}%
13080     text\LWR@f@series\LWR@origtilde{}%
13081     text\LWR@f@shape\LWR@origtilde{}%
13082     text\LWR@f@shapecaps%
13083 }%
13084 }{\endBlockClass\LWR@startpars}
```

\mdseries

```

13085 \newrobustcmd*{\LWR@HTML@mdseries}{%
13086     \LWR@print@mdseries%
13087     \renewcommand*{\LWR@f@series}{md}%
13088 }
13089 \LWR@formatted{mdseries}
```

\bfseries

```

13090 \newrobustcmd*{\LWR@HTML@bfseries}{%
13091     \LWR@print@bfseries%
13092     \renewcommand*{\LWR@f@series}{bf}%
13093 }
13094 \LWR@formatted{bfseries}
```

\ebweight From nfssext-cfr.

```

13095 \newrobustcmd*{\LWR@HTML@ebweight}{%
13096     \LWR@print@ebweight%
13097     \renewcommand*{\LWR@f@series}{eb}%
13098 }
13099 \LWR@formatted{ebweight}
```

\lgweight From nfssext-cfr.

```

13100 \newrobustcmd*{\LWR@HTML@lgweight}{%
13101     \LWR@print@lgweight%
13102     \renewcommand*{\LWR@f@series}{lg}%
13103 }
13104 \LWR@formatted{lgweight}
```

```
\rmfamily
```

```
13105 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13106     \LWR@print@rmfamily%
13107     \renewcommand*{\LWR@f@family}{rm}%
13108 }
13109 \LWR@formatted{rmfamily}
```

```
\sffamily
```

```
13110 \newrobustcmd*{\LWR@HTML@sffamily}{%
13111     \LWR@print@sffamily%
13112     \renewcommand*{\LWR@f@family}{sf}%
13113 }
13114 \LWR@formatted{sffamily}
```

```
\ttfamily
```

```
13115 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13116     \LWR@print@ttfamily%
13117     \renewcommand*{\LWR@f@family}{tt}%
13118 }
13119 \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
```

```
13120 \newrobustcmd*{\LWR@HTML@upshape}{%
13121     \LWR@print@upshape%
13122     \renewcommand*{\LWR@f@shape}{up}%
13123 }
13124 \AtBeginDocument{\LWR@formatted{upshape}}
```

```
\itshape
```

```
13125 \newrobustcmd*{\LWR@HTML@itshape}{%
13126     \LWR@print@itshape%
13127     \renewcommand*{\LWR@f@shape}{it}%
13128 }
13129 \AtBeginDocument{\LWR@formatted{itshape}}
```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```
13130 \newrobustcmd*{\LWR@HTML@scshape}{%
13131     \ifbool{FixSmallCaps}{}{%
13132         \LWR@print@scshape%
13133     }%
```

```
13134     \renewcommand*\{LWR@f@shapecaps}{sc}%
13135 }
13136 \AtBeginDocument{\LWR@formatted{scshape}}
```

#### \ulcshape From fontaxes.

```
13137 \@ifundefined{ulcshape}{
13138     \LetLtxMacro\ulcshape\upshape
13139 }{%
13140 \newrobustcmd*\{LWR@HTML@ulcshape}{%
13141     \LWR@print@ulcshape%
13142     \renewcommand*\{LWR@f@shapecaps}{ulc}%
13143 }
13144 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

#### \sishape

```
13145 \@ifundefined{sishape}{
13146     \LetLtxMacro\sishape\scshape
13147 }{%
13148 \newrobustcmd*\{LWR@HTML@sishape}{%
13149     \ifbool{FixSmallCaps}{}{%
13150         \LWR@print@sishape%
13151     }%
13152     \renewcommand*\{LWR@f@shape}{it}
13153     \renewcommand*\{LWR@f@shapecaps}{sc}%
13154 }
13155 \AtBeginDocument{\LWR@formatted{sishape}}
```

#### \slshape

```
13156 \newrobustcmd*\{LWR@HTML@slshape}{%
13157     \LWR@print@slshape%
13158     \renewcommand*\{LWR@f@shape}{sl}%
13159 }
13160 \AtBeginDocument{\LWR@formatted{slshape}}
```

#### \sscshape

```
13161 \newrobustcmd*\{LWR@HTML@sscshape}{\LWR@HTML@scshape}
13162 \AtBeginDocument{\LWR@formatted{sscshape}}
```

#### \normalfont

```
13163 \newrobustcmd*\{LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13164 \LWR@formatted{normalfont}

13165 \FilenameNullify{%
13166     \LetLtxMacro\rmfamily\@empty%
13167     \LetLtxMacro\sffamily\@empty%
13168     \LetLtxMacro\ttfamily\@empty%
```

```

13169  \LetLtxMacro\bfseries\@empty%
13170  \LetLtxMacro\ebweight\@empty%
13171  \LetLtxMacro\lgweight\@empty%
13172  \LetLtxMacro\mdseries\@empty%
13173  \LetLtxMacro\upshape\@empty%
13174  \LetLtxMacro\slshape\@empty%
13175  \LetLtxMacro\sishape\@empty%
13176  \LetLtxMacro\scshape\@empty%
13177  \LetLtxMacro\itshape\@empty%
13178  \LetLtxMacro\ulcshape\@empty%
13179  \LetLtxMacro\sscshape\@empty%
13180  \LetLtxMacro\normalfont\@empty%
13181 }

```

\sp {*text*}

For **siunitx**. Must work in math mode.

```
13182 \renewcommand{\sp}[1]{\text{<sup>#1</sup>}{}}
```

\sb {*text*}

For **siunitx**. Must work in math mode.

```
13183 \renewcommand{\sb}[1]{\text{<sub>#1</sub>}{}}
```

\textsuperscript {*text*}

```

13184 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13185 \LWR@formatted{textsuperscript}

```

@\textsuperscript {*text*}

```

13186 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13187 \LWR@formatted{@textsuperscript}

```

\textsubscript {*text*}

```

13188 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13189 \LWR@formatted{textsubscript}

```

@\textsubscript {*text*}

```

13190 \newcommand{\LWR@HTML@@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13191 \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.

```
13192 \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.

```
13193 \AtBeginDocument{\let\fup\textsuperscript}
```

\underline {*text*}

```
13194 \renewcommand{\underline}[1]{%
13195     \InLineClass{%
13196         (text-decoration:underline; text-decoration-skip: auto)%
13197         \underline{\#1}%
13198     }}
```

\LWR@overline {*text*}

```
13199 \newcommand{\LWR@overline}[1]{%
13200     \InLineClass{%
13201         (text-decoration:overline; text-decoration-skip: auto)%
13202         \overline{\#1}%
13203     }}
```

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

```
13204 \newcommand*{\LWR@currenttextcolor}{black}
```

\LWR@tempcolor The color converted to HTML colorspace.

\LWR@tempcolortwo

```
13205 \newcommand*{\LWR@tempcolor}{}%
13206 \newcommand*{\LWR@tempcolortwo}{}%
```

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
13207 \newcommand*{\LWR@findcurrenttextcolor}{%
13208     \renewcommand{\LWR@tempcolor}{\#000000}%
13209 }
```

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
13210 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13211     \renewcommand*{\LWR@currenttextcolor}{black}%
13212     #1%
13213 }
```

```
13214 \end{warpHTML}
```

**for PRINT output:** 13215 \begin{warpprint}

---

```
\LWR@textcurrentfont {⟨text⟩}
```

Prints the text with the current font choices.

```
13216 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```
13217 \newenvironment*{LWR@blocktextcurrentfont}{}{}
```

```
\FilenameNullify {⟨macros to nullify⟩}
```

```
13218 \newcommand*{\FilenameNullify}[1]{}{}
```

```
13219 \end{warpprint}
```

## 96 Skips, spaces, font sizes

**for HTML output:** 13220 `\begin{warpHTML}`

`\,`, and `\thinspace` may be redefined by other packages, so are redefined `\AtBeginDocument` here.

Direct-formatting space commands become HTML entities:

```
13221 \AtBeginDocument{  
13222 \renewrobustcmd*{\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space  
13223 \renewrobustcmd*{\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space  
13224 \renewrobustcmd*{\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space  
13225 \renewrobustcmd*{\~}{\HTMLEntity{nbsp}}  
13226 \renewrobustcmd*{\textellipsis}{\HTMLUnicode{2026}}  
13227 \renewrobustcmd*{\vdots}{\HTMLUnicode{22EE}}  
13228 }
```

Direct-formatting font sizes are remembered for future use:

```
13229 \newcommand*{\LWR@font@size}{\normalsize}  
13230  
13231 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{\normalsize}}  
13232 \LWR@formatted{\normalsize}  
13233  
13234 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{\small}}  
13235 \LWR@formatted{\small}  
13236  
13237 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{\footnotesize}}  
13238 \LWR@formatted{\footnotesize}  
13239  
13240 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{\scriptsize}}  
13241 \LWR@formatted{\scriptsize}  
13242
```

```
13243 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
13244 \LWR@formatted{tiny}
13245
13246 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
13247 \LWR@formatted{large}
13248
13249 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
13250 \LWR@formatted{Large}
13251
13252 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
13253 \LWR@formatted{LARGE}
13254
13255 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13256 \LWR@formatted{huge}
13257
13258 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13259 \LWR@formatted{Huge}

13260 \DeclareDocumentCommand{\onecolumn}{}{%
13261
13262 \DeclareDocumentCommand{\twocolumn}{O{}}{%
13263
13264 #1
13265
13266 }

13267 \newcommand*{\LWR@HTML@hfill}{\qquad}
13268 \LWR@formatted{hfill}

13269 \newcommand*{\LWR@HTML@hrulefill}{%
13270     \ifbool{\LWR@doingapar}{%
13271         {\rule{1in}{1pt}}%
13272     }{%
13273         \LWR@findcurrenttextcolor%
13274         \ifdefstring{\LWR@tempcolor}{000000}{%
13275             {%
13276                 \begin{BlockClass}{hrule}%
13277                 \end{BlockClass}%
13278             }%
13279             {%
13280                 \begin{BlockClass}[%border-top: 1px solid \LWR@origpound\LWR@tempcolor
13281                     ]{hrule}%
13282                     \end{BlockClass}%
13283             }%
13284         }%
13285     }%
13286 }%
13287 \LWR@formatted{hrulefill}
```

---

```
\dotfill

13288 \newcommand*{\LWR@HTML@dotfill}{\dots}
13289 \LWR@formatted{dotfill}
```

\newpage

```
13290 \renewcommand*{\newpage}{%
13291 %
13292 }
```

\newline Uses the HTML <br /> element.

```
13293 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13294 \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.

```
13295 \LetLtxMacro\LWR@origendofline\\
13296 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}%
13297 {%
13298 \newline%
```

```
13299 \setlength{\LWR@templengthone}{#2}%
13300 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{%
13301 }
```

\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 \quad's HTML output.

```
13302 \newcommand*{\LWR@minipagestartpars}{%
13303     \ifbool{\LWR@minipagethispar}{\LWR@startpars}{}%
13304 }
```

\LWR@minipagestopars Placed just after \hspace, \quad, or \quad's HTML output.

```
13305 \newcommand*{\LWR@minipagestopars}{%
13306     \ifbool{\LWR@minipagethispar}{\LWR@stopars}{}%
13307 }
```

\quad Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```
13308 \renewrobustcmd*{\quad}{%
13309     \LWR@minipagestopars%
13310     \HTMLunicode{2003}%
13311     \LWR@minipagestartpars%
13312 }
```

\quad Handles special minipage & horizontal space interactions.

```
13313 \renewrobustcmd*{\quad}{\quad\quad}
```

\enskip Handles special minipage & horizontal space interactions.

```
13314 \renewrobustcmd*{\enskip}{%
13315     \LWR@minipagestopars%
13316     \HTMLunicode{2002}%
13317     \LWR@minipagestartpars%
13318 }
```

\Len \LWR@tempwidth Used to compute span width, height, raise for \hspace and \rule:

```
13319 \newlength{\LWR@tempwidth}
13320 \newlength{\LWR@tempheight}
13321 \newlength{\LWR@tempraise}
```

\LWR@select@html@\hspace \* {\<length>} \* {\<length>}

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 \quad.

```
13322 \newcommand{\LWR@select@html@\hspace}{%
13323 \RenewDocumentCommand{\hspace}{s m}{%
13324 \setlength{\LWR@tempwidth}{##2}}%
```

If \fill, change to \qquad:

```
13325 \ifnum\gluestretchorder\LWR@tempwidth>0%
13326 \setlength{\LWR@tempwidth}{2em}%
13327 \fi%
```

Only if the width is greater than zero:

```
13328 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13329 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
13330 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
13331 {%
13332   \HTMLUnicode{2009}% thin breakable space
13333 }%
```

Print the span with the converted width. Not rounded.

```
13334 {%
13335   \LWR@htmltagc{%
13336     span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
13337       display:inline-block\textquotedbl%
13338 }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
13339 \ifbool{FormatWP}{%
13340   \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13341   \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13342     \quad%
13343     \addtolength{\LWR@templengthone}{-1em}%
13344   }%
13345 }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
13346 {\LWR@htmlcomment{}}%
```

Close the span:

```
13347 \LWR@htmltagc{/span}%
13348 }%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
13349      \LWR@minipagestartpars%
13350 }{ }% width greater than 0
13351 }%
13352 }

\LWR@select@html@nohspac * {<length>}
\hspac Used to disable \hspace while creating description \items.
```

```
13353 \newcommand{\LWR@select@html@nohspac}{%
13354     \RenewDocumentCommand{\hspac}{s m}{%
13355 }}
```

\LWR@select@print@hspac

```
13356 \newcommand*{\LWR@select@print@hspac}{%
13357     \renewrobustcmd\hspac{\@ifstar\@hspacer\@hspac}{%
13358 }}
```

\hspac \* {<length>}

Handles special minipage & horizontal space interactions.

```
13359 \LWR@select@html@hspac
```

\LWR@vspace \* {<length>} Nullified vspace.

```
13360 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
13361
13362 \LWR@formatted{vspace}
```

\linebreak [<num>] Inserts an HTML br tag.

```
13363 \renewcommand*{\linebreak}[1][]{\newline}
```

\nolinebreak [<num>]

```
13364 \renewcommand*{\nolinebreak}[1][]{}{}
```

\pagebreak [<num>] Starts a new paragraph.

```
13365 \renewcommand*{\pagebreak}[1][]{
13366
13367 }
```

\nopagebreak [<num>]

```
13368 \renewcommand*{\nopagebreak}[1][]{}{}
```

```
\enlargethispage * {<len>}

13369 \RenewDocumentCommand{\enlargethispage}{s m}{}{}
```

```
\clearpage
\cleardoublepage

13370 \renewcommand*{\clearpage}{}%
13371 \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.

```
13372 \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:

```
13373 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
13374 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
13375 {}% zero- width
13376 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13377 \ifthenelse{%
13378   \lengthtest{\LWR@tempwidth>0pt}\AND%
13379   \lengthtest{\LWR@tempwidth<1pt}%
13380 }%
13381   {\setlength{\LWR@tempwidth}{1pt}}%
13382 }%
```

Likewise with height:

```
13383 \setlength{\LWR@tempheight}{#3}%
13384 \ifthenelse{%
13385   \lengthtest{\LWR@tempheight>0pt}\AND%
13386   \lengthtest{\LWR@tempheight<1pt}%
13387 }%
13388   {\setlength{\LWR@tempheight}{1pt}}%
13389 }%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13390 \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.

```
13391 \LWR@findcurrenttextcolor%
13392 \LWR@htmntagcf%
13393 span\LWR@indentHTML%
13394 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.

```
13395 \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13396 width:\LWR@printlength{\LWR@tempwidth} ; %
13397 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.

```
13398 \ifblank{#1}%
13399 {}%
13400 {%
13401 \setlength{\LWR@tempraise}{0pt-#1}%
13402 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13403 \LWR@indentHTML%
13404 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13405 \LWR@indentHTML%
13406 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13407 \LWR@indentHTML%
13408 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13409 \LWR@indentHTML%
13410 }%
```

Display inline-block to place the span inline with the text:

```
13411 display:inline-block;\textquotedbl\LWR@orignewline%
13412 }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
13413 \ifbool{FormatWP}{%
13414 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13415 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13416 \_{}%
```

---

```

13417           \addtolength{\LWR@templengthone}{-1em}%
13418           }%
13419       }%

```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```

13420           {\LWR@htmlcomment{}}

```

Close the span:

```

13421           \LWR@htmlltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13422           \LWR@minipagestartpars%
13423       }% non-zero width
13424   }
13425
13426 \LWR@formatted{rule}
13427 \end{warpHTML}

```

## 97 \phantomsection

**for HTML output:** 13428 \begin{warpHTML}

\LWR@phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```

13429 \newrobustcmd*\LWR@phantomsection}{%
13430     \begingroup%
13431     \boolfalse{\LWR@forcinghtmltoc}%
13432     \section*{}%
13433     \endgroup%
13434 }
13435 \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: 13436 \begin{warpall}
13437 \newbool{LWR@warnXe}
13438 \boolfalse{LWR@warnXe}
13439
13440 \newrobustcmd*{\Xe}
13441   {%
13442     X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13443     \global\booltrue{LWR@warnXe}%
13444   }
13445
13446 \AtBeginDocument{
13447   \@ifpackageloaded{graphics}{
13448     \@ifpackageloaded{metalogo}{}{
13449       \renewrobustcmd*{\Xe}
13450         {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}}
13451   }
13452   {}
13453 }
13454
13455 \AtEndDocument{
13456   \ifbool{LWR@warnXe}{}{
13457     \PackageWarningNoLine{l warp}{Load graphicx or graphics
13458       for improved XeTeX logo}
13459   }
13460 }
13461
13462 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
13463 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
13464 \providerobustcmd*{\AmS}{%
13465   \leavevmode\hbox{$\mathcal A$\kern-.2em\lower.376ex%
13466   \hbox{$\mathcal M$}\kern-.2em$\mathcal S$}%
13467 }
13468 \newrobustcmd*{\LyX}{\textsf{LyX}}
13469 \providerobustcmd*{\LuaTeX}{\mbox{\Lua\TeX}}
13470 \providerobustcmd*{\LuaLaTeX}{\mbox{\Lua\LaTeX}}
13471 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13472 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13473 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{}t}}
13474 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13475 \end{warpall}
```

for HTML output: 13476 \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>E</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.

```

13477 \newrobustcmd*{\LWR@HTML@TeX}
13478 {%
13479     \InlineClass{latexlogofont}%
13480     {%
13481         \InlineClass{latexlogo}%
13482         {%
13483             T%
13484             \InlineClass{latexlogosub}{e}%
13485             X%
13486         }%
13487     }%
13488 }
13489 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX \LATEX, \LATEX2<sub>E</sub>

\LaTeXe

```

13490 \newrobustcmd*{\LWR@HTML@LaTeX}
13491 {%
13492     \InlineClass{latexlogofont}%
13493     {%
13494         \InlineClass{latexlogo}%
13495         {%
13496             L%
13497             \InlineClass{latexlogosup}{a}%
13498             T%
13499             \InlineClass{latexlogosub}{e}%
13500             X%
13501         }%
13502     }%
13503 }
13504 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13506
13507
13508 \newrobustcmd*{\LWR@HTML@LaTeXe}
13509 {%
13510     \LaTeX%
13511     \InlineClass{latexlogofont}{%
13512         \InlineClass{latexlogotwoe}{%
13513             2%
13514             \InlineClass{latexlogotwoesub}{\HTMLunicode{03B5}}%
13515         }%
13516     }%
13517 }
13518 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

\LuaTeX \LuaT<sub>E</sub>X, \LuaLATEX

\LuaLaTeX

```

13519 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13520 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13521

```

---

```
13522 \newrobustcmd*\{ \LWR@HTML@LuaLaTeX\}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13523 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo
```

\XeTeX X<sub>E</sub>TEX, X<sub>E</sub>LATEX  
 \XeLaTeX  
 xetexlogo is a css class which aligns the backwards E in X<sub>E</sub>TEX and spaces TEX appropriately.  
 xelatexlogo is a css class which aligns the backwards E in X<sub>E</sub>LATEX and spaces LATEX appropriately.

```
13524 \newrobustcmd*\{ \LWR@HTML@Xe\}
13525   {%
13526     X%
13527     \InlineClass{xelatexlogosub}{\HTMLunicode{18e}}%
13528   }
13529 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13530
13531 \newrobustcmd*\{ \LWR@HTML@XeTeX\}{\InlineClass{xelatexlogo}{\Xe}\TeX}
13532 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13533
13534 \newrobustcmd*\{ \LWR@HTML@XeLaTeX\}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13535 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo
```

\ConTeXt ConTEXt

```
13536 \newrobustcmd*\{ \LWR@HTML@ConTeXt\}%
13537   \InlineClass{latexlogofont}{Con}\TeX{}%
13538   \InlineClass{latexlogofont}{t}%
13539 }
13540 \LWR@formatted{ConTeXt}
```

\BibTeX BIB<sub>T</sub>EX, *MakeIndex*  
 \MakeIndex  
 13541 \newrobustcmd\*\{ \LWR@HTML@BibTeX\}
 13542 {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
 13543 \LWR@formatted{BibTeX}
 13544
 13545 \newrobustcmd\*\{ \LWR@HTML@MakeIndex\}
 13546 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
 13547 \LWR@formatted{MakeIndex}

\AmS A<sub>M</sub>S

amslogo is a css class used for the A<sub>M</sub>S logo.

```
13548 \AtBeginDocument{%
13549 \newrobustcmd*\{ \LWR@HTML@AmS\}
13550 {%
13551   \InlineClass{amslogo}{%
13552     \textit{%
13553       A%
13554       \InlineClass{latexlogosub}{M}}%
13555 }}
```

```

13555           $%
13556           }%
13557           }%
13558 }%
13559 \LWR@formatted{AmS}%
13560 }

\MiKTeX MiKTeX

13561 \newrobustcmd*\{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}%
13562 \LWR@formatted{MiKTeX}

\LyX LyX

lyxlogo is a css class used for the LyX logo.

13563 \newrobustcmd*\{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}%
13564 \LWR@formatted{LyX}

13565 \end{warpHTML}

```

## 99 Starting and stopping lwarp

**for HTML output:** 13566 \begin{warpHTML}

```

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.
\LWR@LwarpEnd
13567 \AfterEndPreamble{\LWR@LwarpStart}
13568 \AtEndDocument{\LWR@LwarpEnd}

13569 \end{warpHTML}

```

## 100 Loading everyshi patches

everyshi is emulated by the LATEX core, so its patches are loaded here. \AtBeginDocument is used in case an older verison of LATEX is used.

**for HTML output:** 13570 \begin{warpHTML}
13571 \AtBeginDocument{
13572 \@ifpackageloaded{everyshi}{
13573 \RequirePackage{lwarp-everyshi}
13574 }{%
13575 }
13576 \end{warpHTML}

## 101 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: 13577 \begin{warpHTML}
13578 \RequirePackage{lwarp-textcomp}
13579 \end{warpHTML}
```

## 102 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: 13580 \begin{warpHTML}
13581 \@ifpackageloaded{amsthm}{
13582     \RequirePackage{lwarp-amsthm}
13583 }{}

13584 \@ifpackageloaded{amsmath}{
13585     \RequirePackage{lwarp-amsmath}
13586 }{}
```

amsthm may load centernot, so centernot must be checked second.

```
13587 \@ifpackageloaded{centernot}{
13588     \RequirePackage{lwarp-centernot}
13589 }{}

13590 \end{warpHTML}
```

## 103 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

```
for HTML output: 13591 \begin{warpHTML}

13592 \@ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
13593 \@ifclassloaded{scratcl}{\RequirePackage{lwarp-patch-komascript}}{}
13594 \@ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

13595 \end{warpHTML}
```

## 104 Loading MEMOIR class patches

Load patches to memoir.

```
for PRINT output: 13596 \begin{warpprint}
13597 @ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}
13598 \end{warpprint}
```

```
for HTML output: 13599 \begin{warpHTML}
13600 @ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
13601 \end{warpHTML}
```

## 105 ut\* class patches

Load patches to `uj*` and `ut*` classes, as well as `lj*` classes.

```
for HTML output: 13602 \begin{warpHTML}
```

```
13603 \newcommand*{\LWR@patchujtclasses}{
```

`uj/t` does not use `\partname`

```
13604 \def\@partnameformat{}

13605 \def\@partcntformat##1{%
13606   \prepartname%
13607   \csname the##1\endcsname%
13608   \postpartname%
13609   \quad%
13610 }
13611 \@ifundefined{chapter}{}{%
13612   \def\@chapcntformat##1{%
13613     \prechaptername%
13614     \csname the##1\endcsname%
13615     \postchaptername%
13616     \quad%
13617   }
13618 }
13619 \renewcommand*{\LWR@printchaptername}{}  

```

Use decimal points instead of centered dots:

```
13620 \renewcommand{\thepart}{\@Roman\c@part}
13621 \@ifundefined{chapter}{%
13622   \renewcommand{\thesection}{\@arabic\c@section}
13623 }{%
13624   \renewcommand{\thechapter}{\@arabic\c@chapter}
13625   \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
13626 }
13627 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
13628 \renewcommand{\thesubsubsection}{%
13629   \thesubsection.\@arabic\c@subsubsection}
13630 \renewcommand{\theparagraph}{%
13631   \thesubsubsection.\@arabic\c@paragraph}
13632 \renewcommand{\thesubparagraph}{%
```

```

13633 \theparagraph.\@arabic\c@subparagraph}
13634 \@ifundefined{chapter}%
13635   \renewcommand{\thefigure}{\@arabic\c@figure}
13636   \renewcommand{\thetable}{\@arabic\c@table}
13637 }%
13638   \renewcommand{\thefigure}{%
13639     \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13640   \renewcommand{\thetable}{%
13641     \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13642 }%
13643 }%
13644
13645 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}%
13646 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}%
13647 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}%
13648 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}%
13649 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}%
13650 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}%
13651 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}%
13652 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}%
13653 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}%
13654 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}%
13655 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}%
13656 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}%
13657 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}%
13658 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}%
13659 \@ifclassloaded{ltjtarticle}{\LWR@patchujtclasses}{}%
13660 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}%
13661 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}%
13662 \end{warpHTML}

```

## 106 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:** 13663 \begin{warpHTML}

\AtBeginDocument in case the user set `FileSectionNames` in the preamble.

```

13664 \AtBeginDocument{%
13665   \@ifpackageloaded{ctexpatch}{%
13666     \def\@partcntformat#1{%
13667       \LWR@isolate{\CTEX@partname}~%
13668       \CTEX@part@aftername%
13669     }%
13670   }%
13671   \def\@partnameformat{}%
13672 }

```

---

```

13673     \def\@chapcntformat#1{%
13674         \LWR@isolate{\CTEX@chaptername}~%
13675         \CTEX@chapter@aftername%
13676     }%
13677
13678     \renewcommand*{\LWR@printchaptername}{}
13679 }{}%
13680 }

13681 \end{warpHTML}
```

## 107 kotexutf patches

Patch for `kotexutf`, which is loaded before `lwarp`.

`kotexutf`'s `\@setref` was conflicting with `lwarp`'s cross references.

**for HTML output:** 13682 `\begin{warpHTML}`

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

13683 \AtBeginDocument{%
13684 \@ifpackageloaded{kotexutf}{%
13685     \def\LWR@kotexutf@setref#1#2#3{%
13686         \@setref@dhucs@orig{#1}{#2}{#3}%
13687         \ifx#1\relax\else
13688             \bgroup
13689             \dhucs@make@CJKchar@null
13690             \edef@\temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13691             \egroup
13692         \fi%
13693     }%
13694     \ifdefequal{\@setref}{\LWR@kotexutf@setref}{%
13695         \let\@setref\@setref@dhucs@orig
13696     }{}%
13697 }{}%
13698 }{}%
13699 }

13700 \end{warpHTML}
```

## 108 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: 13701 \begin{warpHTML}
13702 \AtBeginDocument{
13703
13704 \@ifpackageloaded{polyglossia}{
13705   \PackageWarningNoLine{lwarp}
13706   {%
13707     Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
13708     See the cleveref documentation regarding\MessageBreak
13709     polyglossia support. Some languages are not supported%
13710   }
13711   \typeout{---}
13712   \typeout{Package lwarp:}
13713   \typeout{If the error}
13714   \typeout{\space\space‘‘! Undefined control sequence.
13715     \space ... \space \protect\__hook begindocument’’}
13716   \typeout{occurs here, use the polyglossia macro:}
13717   \typeout{\space\space\protect\setmainlanguage\protect{...}\protect{}}
13718   \typeout{---}
13719 }{
13720   \@ifpackageloaded{babel}{
13721     \PackageWarningNoLine{lwarp}
13722     {%
13723       Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
13724       See the cleveref documentation regarding\MessageBreak
13725       babel support. Some languages are not supported%
13726     }
13727   }()
13728 }
13729
13730 }
13731 \end{warpHTML}
```

## 109 MATHJAX warnings

\LWR@mathjaxwarn {\langle packagename\rangle} {\langle More text.\rangle}

To be done \AtBeginDocument.

```

13732 \newcommand*{\LWR@mathjaxwarn}[2]{%
13733     \@ifpackageloaded{lwarf-#1}{%
13734         \ifblank{#2}{%
13735             \PackageWarningNoLine{lwarf}%
13736             {%
13737                 Lwarf provides emulation for MathJax when used\MessageBreak
13738                 with the #1 package%}
13739             }%
13740         }{%
13741             \PackageWarningNoLine{lwarf}%
13742             {%
13743                 Lwarf provides emulation for MathJax when used\MessageBreak
13744                 with the #1 package.\MessageBreak
13745                 #2%
13746             }%
13747         }%
13748     }{}%
13749 }
13750
13751 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}%
13752 %
13753 % To be done \cs{AtBeginDocument}.
13754 %
13755 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \brand{MathJax}.}%
13756 % \changes{v0.895}{2021/01/08}{Improved \brand{MathJax} warning.}%
13757 % \begin{macrocode}%
13758 \newcommand*{\LWR@nomathjaxwarn}[2]{%
13759     \@ifpackageloaded{lwarf-#1}{%
13760         \ifblank{#2}{%
13761             \PackageWarningNoLine{lwarf}%
13762             {%
13763                 Lwarf does not provide MathJax support for #1.\MessageBreak
13764                 Use SVG math by removing the Lwarf mathjax option%}
13765             }%
13766         }{%
13767             \PackageWarningNoLine{lwarf}%
13768             {%
13769                 Lwarf does not provide MathJax support for #1.\MessageBreak
13770                 #2%
13771             }%
13772         }%
13773     }{}%
13774 }

\LWR@forceSVGmessage  {\langle packagename\rangle}

13775 \newcommand*{\LWR@forceSVGmessage}[1]{%
13776     SVG math output may be enabled for select math\MessageBreak
13777     expressions to preserve #1 visual\MessageBreak
13778     features for those particular expressions.\MessageBreak
13779     Before the chosen inline math, use \protect\inlinemathother\MessageBreak
13780     to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
13781     afterward to resume using MathJax math.\MessageBreak

```

---

```

13782 Before display math, use \protect\displaymathother\MessageBreak
13783 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
13784 after to resume using MathJax for the following math.\MessageBreak
13785 Or, use SVG math for all expressions by removing\MessageBreak
13786 the mathjax option for the lwarp package%
13787 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

13788 \AtBeginDocument{
13789   \ifbool{mathjax}{
13790     \LWR@nomathjaxwarn{aligned-overset}{}
13791     \LWR@nomathjaxwarn{amscdx}
13792       {\LWR@forceSVGmessage{amscdx}}
13793     \LWR@mathjaxwarn{arydshln}
13794       {In a math array, do not use the optional argument\MessageBreak
13795         for \protect\cdashline.\space\space
13796         Furthermore, \protect\cline\space is not\MessageBreak
13797         supported by MathJax}
13798   \LWR@nomathjaxwarn{autoaligne}{}
13799   \LWR@mathjaxwarn{autonum}
13800     {MathJax does not support equation+.\MessageBreak
13801       You may use the warpprint and warpHTML\MessageBreak
13802       environments to isolate the package load\MessageBreak
13803       and the equation+ environments}
13804   \LWR@mathjaxwarn{bigdelim}
13805     {Delimiters appear only of the first line}
13806   \LWR@nomathjaxwarn{boldtensors}{}
13807   \LWR@mathjaxwarn{booktabs}
13808     {\protect\cmidrule\space is not displayed}
13809   \LWR@mathjaxwarn{breqn}
13810     {Each environment becomes an SVG image}
13811   \LWR@mathjaxwarn{colortbl}
13812     {Colors are ignored in MathJax.\MessageBreak
13813       (Text mode tabular does support colortbl.)\MessageBreak
13814       \LWR@forceSVGmessage{colortbl}}
13815   \LWR@mathjaxwarn{delarray}
13816     {\LWR@forceSVGmessage{delarray}}
13817   \LWR@nomathjaxwarn{gauss}
13818     {\LWR@forceSVGmessage{gauss}}
13819   \LWR@mathjaxwarn{hhline}
13820     {A simple \protect\hline\space is used}
13821   \LWR@mathjaxwarn{isomath}
13822     {Some of the symbol font macros such as \protect\mathsf{fb}\MessageBreak
13823       do not use a sans font because MathJax does not yet\MessageBreak
13824       have sans Greek. Tensors may look like vectors%
13825     }
13826   \LWR@nomathjaxwarn{jkmath}
13827     {\LWR@forceSVGmessage{jkmath}}
13828   \LWR@mathjaxwarn{libertinust1math}
13829     {Some of the symbol font macros such as \protect\mathsf{fb}\MessageBreak
13830       do not use a sans font because MathJax does not yet\MessageBreak
13831       have sans Greek. Tensors may look like vectors%
13832     }
13833   \LWR@mathjaxwarn{mathtools}

```

```
13834 {See the Lwarp manual regarding the disallowspaces\MessageBreak
13835 and showonlyrefs options, the alignat environment, \MessageBreak
13836 and \protect\DeclarePairedDelimiter\space and related%
13837 }
13838 \LWR@mathjaxwarn{mathspec}
13839 {Double quotes are removed, even inside \protect{text}}
13840 \LWR@mathjaxwarn{multirow}
13841 {Multirow works as expected in text mode, but \MessageBreak
13842 limited emulation is provided for MathJax math. \MessageBreak
13843 \protect{multirow}\space ignores all arguments except \MessageBreak
13844 the text}
13845 \LWR@mathjaxwarn{nicematrix}
13846 {Keys/values are ignored in MathJax. \MessageBreak
13847 \protect{\cdots}, etc. do not span multiple cells. \MessageBreak
13848 AutoNiceMatrix, etc. are not supported for MathJax. \MessageBreak
13849 \LWR@forceSVGmessage{nicematrix}%
13850 }
13851 \LWR@nomathjaxwarn{pb-diagram}
13852 {\LWR@forceSVGmessage{pb-diagram}}
13853 %
13854 % {The third-party extension is not used. \MessageBreak
13855 % {The MathJax v3 extension is used. \MessageBreak
13856 % See the Lwarp manual for details}
13857 \LWR@nomathjaxwarn{tensind}{}
13858 \LWR@mathjaxwarn{unicode-math}
13859 {Do not use embedded Unicode characters. \MessageBreak
13860 (Not all characters are encoded correctly.) \MessageBreak
13861 Some symbol fonts are not supported by MathJax, \MessageBreak
13862 and are only approximated. \MessageBreak
13863 Greek macros such as \protect{\alpha}\space respond to the math-style \MessageBreak
13864 option. Latin symbols does not, per MathJax \MessageBreak
13865 limitations, unless placed inside \protect{\symbol}\space or similar}
13866 \LWR@nomathjaxwarn{unitsdef}{}
13867 \LWR@mathjaxwarn{witharrows}
13868 {Arrows can only point to the next line. \MessageBreak
13869 Text is only placed on a single line}
13870 \LWR@nomathjaxwarn{xy}
13871 {In text, xy works as-is. SVG images will be generated. \MessageBreak
13872 \LWR@forceSVGmessage{xy}}
13873 {}
13874 }
```

---

**File 2 l warp-2in1.sty****§ 110 Package 2in1**

Pkg 2in1 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

**File 3 l warp-2up.sty****§ 111 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****§ 112 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****§ 113 Package a4wide**

Pkg a4wide a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

---

**File 6 l warp-a5comb.sty****§ 114 Package a5comb**

Pkg a5comb a5comb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a5comb}

---

**File 7 l warp-abstract.sty****§ 115 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

### § 116 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**

## § 117 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{\phantom{##1}}\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{\phantom{##1}}}}{##1}%
49 }%
50 \end{warpMathJax}

```

---

#### File 10 **lwarp-accessibility.sty**

### § 118 Package **accessibility**

Pkg **accessibility** **accessibility** is emulated.

**for HTML output:** Discard all options for **lwarp-accessibility**:

```

1 \ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\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**

§ 119 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**

§ 120 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**

§ 121 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****§ 122 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 margin\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****§ 123 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****§ 124 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****§ 125 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 \newbool{LWR@algocf@dopars}
17 \booltrue{LWR@algocf@dopars}
18
19 \renewcommand{\algocf@everypar}{%
20 \ifbool{LWR@algocf@dopars}{%
21   \ifbool{LWR@doingstartpars}{%
22     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
23       {}%
24       {}%
25       \algocf@everyparnl\algocf@everyparhanging%
26     }%
27   }%
28 }%
29 }
```

**lwarp** caption handling:

```
30 \renewcommand{\algocf@makecaption}[2]{%
31 \LWR@HTML@caption@begin{\algocf}%
32 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
33 \LWR@HTML@caption@end%
34 }
```

Print any caption where it is declared:

```
35 \renewcommand{\algocf@makecaption@plain}[2]{%
36   \LWR@HTML@caption@begin{\algocf}%
37   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
38   \LWR@HTML@caption@end%
39 }
40
41 \renewcommand{\algocf@makecaption@boxed}[2]{%
42   \LWR@HTML@caption@begin{\algocf}%
43 }
```

```

43   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
44   \LWR@HTML@caption@end%
45 }
46
47 \renewcommand{\algocf@makecaption@ruled}[2]{%
48   \LWR@HTML@caption@begin{\algocf}%
49   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
50   \LWR@HTML@caption@end%
51 }

```

Turn off line numbering while making the caption:

```

52 \long\def\algocf@latexcaption#1[#2]#3{%
53 \boolfalse{LWR@algocf@dopars}%
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 }

```

Line numbers are printed in a <span> of class alg2elinenumber:

```

67 \renewcommand{\algocf@printlnl}[1]{%
68   \InlineClass{alg2elinenumber}{\NlSty{#1}}%
69 }

```

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.

```

70 \preto{\algocf@init}{%
71   \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
72 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

73 \renewcommand{@algocf@start}{%
74   \let@\mathsemicolon=\; \def\;{\ifmmode\mathsemicolon\else\endalgoln\fi}%
75 %   \raggedright%
76   \AlFnt{}%
77   \booltrue{LWR@algocf@dopars}%
78 }
79
80 \renewcommand{@algocf@finish}{%
81   \boolfalse{LWR@algocf@dopars}%
82   \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
}

```

```

83     \let\;=\@mathsemicolon%
84     \let\]=\@mathdisplay%
85 }
```

Use an HTML break:

```

86 \renewcommand{\BlankLine}{%
87 \LWR@stoppars%
88 \LWR@htmlltagc{br /}%
89 \LWR@startpars%
90 }
```

Simplified for HTML. The paragraph handling must be preserved.

```

91 \renewcommand{\SetKwInOut}[2]{%
92   \algocf@newcommand{\#1}[1]{%
93     \ifthenelse{\boolean{\algocf@hanginginout}}{%
94       {\relax}%
95       {\algocf@seteveryparhanging{\relax}}%
96     \ifthenelse{\boolean{\algocf@inoutnumbered}}{%
97       {\relax}%
98       {\algocf@seteveryparnl{\relax}}%
99     }%
100       \KwSty{\#2\algocf@typo:}%
101       ~##1\par%
102     }%
103   \algocf@linesnumbered% reset the numbering of the lines
104   \ifthenelse{\boolean{\algocf@hanginginout}}{%
105     {\relax}%
106     {\algocf@reseteveryparhanging}}%
107   }%
108 }%
109 \renewcommand{\ResetInOut}[1]{%
110 }
```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

111 \renewcommand{\algocf@Vline}[1]{%
112   \boolfalse{\LWR@algocf@dopars}%
113   \begin{BlockClass}{alg2evline}%
114   \booltrue{\LWR@algocf@dopars}%
115   #1%
116   \boolfalse{\LWR@algocf@dopars}%
117   \end{BlockClass}%
118   \booltrue{\LWR@algocf@dopars}%
119 }

120 \renewcommand{\algocf@Vsline}[1]{%
121   \boolfalse{\LWR@algocf@dopars}%
122   \begin{BlockClass}{alg2evsline}%
123   \booltrue{\LWR@algocf@dopars}%
124   #1%
125   \boolfalse{\LWR@algocf@dopars}%
126   \end{BlockClass}
```

```

127      \booltrue{LWR@algocf@dopars}%
128 }

129 \renewcommand{\algocf@Noline}[1]{%
130   \boolfalse{LWR@algocf@dopars}%
131   \begin{BlockClass}{alg2enoline}%
132   \booltrue{LWR@algocf@dopars}%
133   #1%
134   \boolfalse{LWR@algocf@dopars}%
135   \end{BlockClass}%
136   \booltrue{LWR@algocf@dopars}%
137 }

```

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.

```

138 \LetLtxMacro\algocf@Here\algocf
139 \LetLtxMacro\endalgocf@Here\endalgocf

```

#### File 18 **lwarf-algorithmicx.sty**

### § 126 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 628.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity{%
7 \origALG@doentity%
8 \LWR@htmlltagc{%
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@htmltag{/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**

§ 127 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**

§ 128      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{\CDlor}{[1]{}}
14 \end{warpMathJax}
```

---

**File 21 l warp-amsmath.sty**

§ 129      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}{}{\% not mathjax
7
8 \LetLtxMacro{\LWR@origmake@df@tag@@}{\make@df@tag@@}
9 \LetLtxMacro{\LWR@origmake@df@tag@@@}{\make@df@tag@@@}
10
11 \renewcommand*{\make@df@tag@@}[1]{%
12 \LWR@remembertag{#1}%
13 \LWR@origmake@df@tag@@{#1}%
14 }
15
16 \renewcommand*{\make@df@tag@@@}[1]{%
17 \LWR@remembertag{#1}%
18 \LWR@origmake@df@tag@@@{#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 lateximage.

```

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 \* {*environment name*}

\* 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@amsmultline}%
52                 \ifstrelational{#2}{multiline}{\booltrue{LWR@amsmultline}}{}%
53                 \ifstrelational{#2}{multiline*}{\booltrue{LWR@amsmultline}}{}%
54             }%
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 }
```

 autonum's "+" environments are not supported by MATHJAX.

```
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 }
```

\LWR@amsmathenv@@after

Embeds the environment inside a `lateximage`.

```
66 \newcommand*{\LWR@amsmathenv@@after}{%
67     \end{lateximage}\end{BlockClass}\LWR@startpars%
68 }
```

\LWR@amsmathenv@@after \* {*environment name*}

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with MATHJAX or 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@amsmultline}%
75                 \LWR@addmathjax{#2}{\the\@envbody}%
76             }%
77         }%
78     }%
79 }
```

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*}}%
```

```

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

§ 130 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.

**for HTML output:** amsthm must be loaded before mdframed:

---

 Table 18: **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.

---

```

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\xnuthm#1#2{%
29   \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
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}}[]}%
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}%                                lwarp
70   \let\currentlabelname\GetTitleStringResult%        lwarp
71   \item[%
```

```

72     \LWR@newautopagelabel{page}%

73 %   \defered@thm@head{
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% lwarp

89   \LWR@printpendingfootnotes% lwarp

90   \BlockClass{amsthmbody}\LWR@thisthmstyle}% lwarp

```

Footnotes are redefined to work correctly inside the option brackets for a theorem environment.

```

91   \renewcommand{\footnote}[1][]{%
92     \ifblank{##1}%
93     {%
94       \stepcounter{\mpfn}
95       \protected@xdef{\thefnmark}{\thempfn}%
96       \footnotemark\footnotetext
97     }%
98     {%
99       \begingroup
100      \csname c@\mpfn\endcsname ##1\relax
101      \unrestored@protected@xdef{\thefnmark}{\thempfn}%
102      \endgroup
103      \footnotemark\footnotetext
104    }%
105  }%
106 %
107 \renewcommand{\footnotemark}[1][]{%
108   \ifblank{##1}%
109   {%
110     \stepcounter{footnote}%
111     \protected@xdef{\thefnmark}{\thefootnote}%
112     \footnotemark%
113   }%
114   {%
115     \begingroup%

```

```

116          \c@footnote ##1\relax%
117          \unrestored@protected@xdef\@thefnmark{\thefootnote}%
118          \endgroup%
119          \@footnotemark%
120      }%
121  }%
122 %
123 \trivlist
124 \let\thmheadnl\relax
125 \let\thm@swap\@gobble
126 \thm@notefont{\fontseries{mddefault}\upshape}%
127 \thm@headpunct{.}% add period after heading
128 \thm@headsep 5\p@ plus\p@ minus\p@\relax
129 \thm@space@setup
130 #1% style overrides
131 \topsep \thm@preskip % used by thm head
132 \topsepadd \thm@postskip % used by \endparenv
133 \def@\tempa{#2}\ifx\empty\@tempa
134   \def@\tempa{@oparg{\begin{theorem}{#3}{}[]}{}}
135 \else
136   \refstepcounter{#2}%
137   \def@\tempa{@oparg{\begin{theorem}{#3}{\csname the#2\endcsname}[]}{}}
138 \fi
139 \tempa%
140 }

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. `lwarp` then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

141 \AtBeginDocument{%
142 \def\cref@thmoptarg[#1]#2#3#4{%
143   \ifhmode\unskip\unskip\par\fi%
144   \normalfont%
145   \LWR@forcenewpage} lwarp
146 \LWR@printpendingfootnotes} lwarp
147 \BlockClass{amsthmbody\LWR@thisthmstyle}{} lwarp
148 \trivlist%
149 \let\thmheadnl\relax%
150 \let\thm@swap\@gobble%
151 \thm@notefont{\fontseries{mddefault}\upshape}%
152 \thm@headpunct{.}% add period after heading
153 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
154 \thm@space@setup%
155 #2% style overrides
156 \topsep \thm@preskip % used by thm head
157 \topsepadd \thm@postskip % used by \endparenv
158 \def@\tempa{#3}\ifx\empty\@tempa
159   \def@\tempa{@oparg{\begin{theorem}{#4}{}[]}{}}
160 \else%
161   \refstepcounter{#1}{#3}% << cleveref modification
162   \def@\tempa{@oparg{\begin{theorem}{#4}{\csname the#3\endcsname}[]}{}}
163 \fi%
164 \tempa

```

```

165 }%
166 }% AtBeginDocument
167
168 \def\@endtheorem{%
169     \endtrivlist%
170     \LWR@printpendingfootnotes% l warp
171     \endBlockClass%
172     \endpefalse%
173 }

```

Proof QED symbol:

```

174 \AtBeginDocument{%
175 \@ifundefined{\LWR@orig@openbox}{%
176 \LetLtxMacro{\LWR@orig@openbox}{\openbox}%
177 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}%
178 \LetLtxMacro{\LWR@orig@Box}{\Box}%
179
180 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
181 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
182 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
183
184 \appto{\LWR@restoreorigformatting}{%
185     \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
186     \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
187     \LetLtxMacro{\Box}{\LWR@orig@Box}%
188 }% appto
189 }{}% @ifundefined
190 }% AtBeginDocument

```

Patched for css:

```

191 \renewenvironment{proof}[1][\proofname]{\par
192     \LWR@forcenewpage% l warp
193     \LWR@printpendingfootnotes% l warp
194     \BlockClass{amsthmproof}{} l warp
195     \LWR@newautopagelabel{page}%
196     \pushQED{\qed}%
197     \normalfont \topsep6\p@\relax
198     \trivlist
199     \item[%
200         \InLineClass{amsthmproofname}{\#1\@addpunct{.}}]\ignorespaces% changes
201     ]{}%
202     \InLineClass{theoremendmark}{\popQED}\endtrivlist%
203     \LWR@printpendingfootnotes% l warp
204     \endBlockClass% l warp

```

```
205  \end{pfalse}
206 }
```

---

File 23 **l warp-anonchap.sty**

§ 131 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

Pkg anonchap **anonchap** is emulated.

Pkg tocloft **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** The code is shared by tocbibind.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

```
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 **l warp-any size.sty**

§ 132 Package **any size**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

Pkg anysize **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 **l warp-appendix.sty**

§ 133 Package **appendix**

(Emulates or patches code by PETER WILSON.)

Pkg appendix appendix is patched for use by l warp.

- ⚠ **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

§ 134 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 series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*\{\LWR@HTML@ARb\}{%
17   \begin{lateximage}*[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****§ 135 Package arabicfront**

Pkg arabicfront arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

---

**File 28 l warp-array.sty****§ 136 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:** Remove the default nullified macros:

```
1 \let\firsthline\relax
2 \let\lasthline\relax
3
4 \LWR@ProvidesPackagePass{array}[2018/12/30]

5 \newcommand*{\LWR@HTML@firsthline}{\LWR@HTMLhline}%
6 \LWR@expandableformatted{firsthline}
7
8 \newcommand*{\LWR@HTML@lasthline}{\LWR@HTMLhline}%
9 \LWR@expandableformatted{lasthline}

10 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
11 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
12 \CustomizeMathJax{
13     \newcommand{\multicolumn}[3]{#3}% only uses one cell
14 }
```

---

**File 29 l warp-arydshln.sty****§ 137 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 `lateximage`, revert to solid vertical rules:

```

19 \appto\LWR@restoreorigformatting{%
20 \newcolumntype{:}{|}%
21 \newcolumntype{;}{|}[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the l warp core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `lateximage`:

```

24 \def\hdashline{
25 %     \adl@hdashline\adl@ihdashline
26     \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0='}\fi
29 %         \ifadl@zwhrule \vskip-\arrayrulewidth
```

```

30 %           \else
31 %             \adl@hline\adl@connect\arrayrulewidth
32             \hrule \height \arrayrulewidth% l warp
33 %           \fi
34           \@ifnextchar[%]
35             {#1}%
36             {#1[%}
37 %               \dashlinedash/\dashlinegap
38               1pt/1pt
39             ]{}}
40 % \def\adl@ihashline[#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 %   \atempcnta#
54 %     \global\advance\adl@totalheight\atempcnta
55 %     \xdef\adl@rowsL{\adl@rowsL
56 %       (#1/\number\atempcnta);}%
57 %     \xdef\adl@rowsR{\adl@rowsR
58 %       (#1/\number\atempcnta);}
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{\firsthdashline}[1][]{\hline}}
72 \CustomizeMathJax{\let\lastdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

---

File 30 **l warp-asymptote.sty**

§ 138 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
```

```
l warpmk print
```

```
asy project-*.asy
```

```
l warpmk print1
```

```
l warpmk print1
```

```
l warpmk html
```

```
asy project_html-*.asy
```

```
l warpmk html1
```

```
l warpmk html1
```

```
l warpmk 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

§ 139 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 **l warp-attachfile.sty**

§ 140 Package **attachfile**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg **attachfile** **attachfile** is patched for use by **l warp**.

⚠ 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 **lwarp-attachfile2.sty**

## § 141 Package **attachfile2**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg **attachfile2** **attachfile2** is patched for use by **lwarp**.

 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\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}%      l warp
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%      l warp
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 **l warp-authblk.sty**

#### § 142 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg authblk authblk is patched for HTML.

package support **l warp** 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.

*(Emulates or patches code by PATRICK W. DALY.)*

for HTML output: Require that authblk be loaded before titling:

---

```

1 \@ifpackageloaded{titling}{
2     \PackageError{l warp-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 l warp-autobreak.sty

## § 143 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****§ 144 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**

§ 145 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}[% 
34         width:75\% ;
35         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**

§ 146 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**

§ 147      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**

§ 148      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****§ 149 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****§ 150 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**

§ 151      Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

Pkg **bbding** **bbding** 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@TwelveStar}{\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 lwarf-biblatex.sty**

§ 152      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. **lwarp** 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 @#1}{%
24 %     \blx@sfrst%
25 %     #2%
26 %     \blx@sfsave%
27 %   }%
28 %   \blx@sfrst%
29 }%\def\blx@nohyperref[#1]#2{#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@imc@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{biblalex}{\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{biblalex}{\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{biblalex}{\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{\rmtonum{#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}}% lwarp
112              {}%}
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}}% lwarp
121              {}%}
122             \def\abx@range@prev{-1}%
123             \edef\abx@range@last{\abx@range@this}%
124
125 \renewbibmacro*{pageref:dump}{%
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}}% lwarf
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}}% lwarf
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}}% lwarf
147        {\bibstring{sequens}}}
148     {\bibrangedash
149      \ifhyperref
150        {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}%
151        {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarf
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}}% lwarf
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}}% lwarf
165           {\bibstring{sequentes}}}
166         {\bibrangedash
167           \ifhyperref
168             {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}%
169             {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarf
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}}% lwarf
177        {\bibstring{sequens}}}
178     {\sqspace
179      \ifhyperref
180        {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}%
181        {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarf
182        {\bibstring{sequentes}}}}%
183   \fi
184   \def\abx@range@diff{0}
185 {}}
```

---

```
186
187 }% \AfterPreamble
```

---

#### File 45 **l warp-bibunits.sty**

§ 153 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 46 **l warp-bigdelim.sty**

§ 154 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 {	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\bigdelim}}
20 \CustomizeMathJax{\newcommand{\LWRldelimeone}[2][]{\LWRldelimtwo}}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\bigdelim{#1}\LWRldelimeone}}
22 % \rdelim ) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][]{\bigdelim\text{#1}}}
24 \CustomizeMathJax{\newcommand{\LWRrdelimeone}[2][]{\LWRrdelimtwo}}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\bigdelim{#1}\LWRrdelimeone}}
26 \end{warpMathJax}
```

#### File 47 l warp-bigfoot.sty

§ 155 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 48 **l warp-bigstrut.sty**

§ 156 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg **bigstrut** **bigstrut** is used as-is for print or `\teximage`, 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 49 **l warp-bitpattern.sty**

§ 157 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 50 l warp-blowup.sty****§ 158 Package blowup**

Pkg blowup blowup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]  
2 \newcommand\*\blowUp[1]{}

---

**File 51 l warp-bm.sty****§ 159 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 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}}
12 \end{warpMathJax}
```

## File 52 **lwarf-booklet.sty**

§ 160 Package **booklet**

(Emulates or patches code by PETER WILSON.)

Pkg booklet booklet is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

File 53 **lwarp-bookmark.sty**

## § 161 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 54 **l warp-booktabs.sty**

§ 162 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@tabletotalLaTeXcols}}}{%
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     \LWR@expandableformatted{addlinespace}%
63 }
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}{\let\midrule\toprule}}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabs{\midrule\parens{#1}#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabs}{\midrule\parens{#1}{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}{\let\midrule\cmidrule}}
```

```
80     \ifnextchar(\LWRbooktabs\midrule\parens\LWRbooktabs\midrule\noparens%
81   }%
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][]{}}
85 \end{warpMathJax}
```

---

**File 55 l warp-bophook.sty****§ 163 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 56 l warp-bounddvi.sty****§ 164 Package bounddvi**

Pkg bounddvi bounddvi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

---

**File 57 l warp-boxedminipage.sty****§ 165 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 58 l warp-boxedminipage2e.sty****§ 166 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 59 l warp-braket.sty****§ 167 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 60 l warp-breakurl.sty****§ 168 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@burlaltn%
15 }
16
17 \LetLtxMacro\urlalt\burlalt

```

---

File 61 **l warp-breqn.sty**

§ 169 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)

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#1%
5 % \def\eqnumplace#1%
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 62 lwarf-bsheaders.sty**

§ 170 Package **bsheaders**

Pkg bsheaders **bsheaders** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

---

**File 63 l warp-bussproofs.sty****§ 171 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   \NewEnviron{LWR@HTML@prooftree}{%
5     {\LWR@doequation{\BODY}{prooftree}}%
6     [\LWR@doendequation{prooftree}]%
7     \LWR@formattedenv{prooftree}%
8   }{%
9   }% SVG HTML
10  \BeforeBeginEnvironment{prooftree}{%
11    \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]%
12  }%
13  \AfterEndEnvironment{prooftree}{\end{lateximage}%
14 }
```

---

**File 64 l warp-bxpapersize.sty****§ 172 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 65 l warp-bytefield.sty****§ 173 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 66 l warp-cancel.sty

#### § 174 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 67 **l warp-canoniclayout.sty**

## § 175 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

**for HTML output:** s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*\currentfontletters(){}
3 \newcommand*\charactersperpage(){}

```

---

### File 68 **l warp-caption.sty**

## § 176 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@iiibox@#1#2#3#4{%
11 %   \setbox\@tempboxa\hbox{#4}%
12 %   \caption@iiibox{#1}{#2}{#3}%
13 %     [\wd\@tempboxa]%
14 %   []%                                l warp
15 %   [\captionbox@hj@default]%
16 %     {\unhbox\@tempboxa}%
17 %   {#4}%%                                l warp
18 }

```

```

19 \long\def\caption@iiibox#1#2#3#4#5[#6][#7]#8{%
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}{%
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}{\xdblfloat}}
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 69 **l warp-caption3.sty**

## § 177 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}%
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%
35   }%
36   \caption@textstart
37 %   \caption@ifstrut
38 %   {\vrule@height\ht\strutbox@width\z@}%
39 %   {}%
40 %   \nobreak\hskip\z@skip % enable hyphenation
41   \LWR@isolate{\caption@textformat{#2}}%    lwarp
42 %   \caption@ifstrut
43 %   {\ifhmode\@finalstrut\strutbox\fi}%
44 %   {}%
45   \caption@textend}%
46   \LWR@startpars%                         lwarp
47 \LWR@traceinfo{caption@@@make done}%
48 }
49 }% later than 2020/08/23
50 {% earlier than 2020/08/23
51 \renewcommand\caption@@@make[2]{%
52 \LWR@traceinfo{caption@@@make}%
53   \LWR@stoppars%                         lwarp
54   \sbox\@tempboxa{#1}%
55   \ifdim\wd\@tempboxa=\z@
56     \let\caption@lsep\relax
57   \fi
58   \caption@ifempty{#2}{%
59     \let\caption@lsep\empty
60     \let\caption@tfmt\@firstofone
61   }%
62   \setpar{\@par\caption@par}\caption@@@par
63   \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}%
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 70 **lwarp-cases.sty**

§ 178 Package **cases**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg cases **cases** is patched for use by **lwarp**.

While using MATHJAX, **cases** objects are converted to SVG math images.

**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 71 l warp-ccicons.sty

§ 179 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 72 l warp-centerlastline.sty****§ 180 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 73 l warp-centernot.sty****§ 181 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]

Based on <https://github.com/mathjax/MathJax/issues/2107> with \textstyle removed to work with sub/super scripts.

```
2 \LWR@origRequirePackage{l warp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\centernot}{\begin{array}{c}\top \\[-1ex] \bot\end{array}}}
6   \LWRoverlaysymbols{\unicode{x2215}}{\centernot}
7 \end{warpMathJax}
8 \end{document}
```

---

**File 74 l warp-changebar.sty****§ 182 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

```
6 \newcommand*{\nochnagebars}{}  
7 \newcommand*{\cbccolor}[1]{}  
8 \newlength{\changebarwidth}  
9 \newlength{\deletebarwidth}  
10 \newlength{\changebarsep}  
11 \newcounter{changebargrey}
```

---

**File 75 l warp-changelayout.sty****§ 183 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 76 l warp-changepage.sty****§ 184 Package changepage**

(Emulates or patches code by PETER WILSON.)

Pkg changepage 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}{\oddpagetrue}
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 77 **l warp-changes.sty**

§ 185      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 \IfFileExists{\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}{% lwarp
82         \changesauthorname: \changesanonymousname%
83     }% lwarp
84 }%%
85 {%
86     \LWR{textcurrentcolor}{% lwarp
87 \changesauthorname: \Changes@Inid%
88 }% lwarp
89 \IfIsEmpty{\Changes@Inname}%
90 {}}%
91 { %
92     \LWR{textcurrentcolor}{% lwarp
93 (\Changes@Inname)%
94 }% lwarp
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}{% lwarp
106     \changesnochanges%
107 }% lwarp
108 \% \\[1ex] % lwarp
109     \par% \lwarp
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~% \lwarp
124 \csuse{Changes@In#####1}%
125 }% lwarp
126 \% \ifnumless{\Changes@InCount}{\Changes@InSum}%
127 {\\}%
```

```
128 % {\\"[1ex]}%    lwarp
129 }%
130 {}%
131 }%
132 \expandafter\oopslist\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 [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}{%
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}{%
170 \textbf{[\IfIsAnonymous{#2}{}{#3~}\arabic{Changes@commentCount#2}]:} #1%
171 }%    lwarp
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 \IfIsEmptyAtPosition{#2}{left}{%
199 {%
200 {%
201 \IfIsColored{%
202 {\color{authorcolor}}{%
203 {%
204     \LWR{textcurrentcolor}{ lwarp
205 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}{%
206     }% lwarp
207 }}{%
208 }}{%
209 {%
210 \IfStrEq{#1}{highlight}{%
211 {}}{%
212 \IfIsColored{%
213 {\color{authorcolor}}{%
214 {%
215 {%
216     \LWR{textcurrentcolor}{ lwarp
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     }% lwarp
222 }}{%
223 \IfIsEmpty{#5}{%
224 {%
225 \IfIsEmptyAtPosition{#2}{right}{%
226 {%
227 {%
228 \IfIsColored{%
229 {\color{authorcolor}}{%
230 {%
231     \LWR{textcurrentcolor}{ lwarp
232 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}{%
233     }% lwarp
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 78 l warp-chappg.sty****§ 186 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 79 l warp-chapterbib.sty****§ 187 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 80 l warp-chemfig.sty****§ 188 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 \teximage:

```
\begin{teximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{teximage}
```

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{teximage}[-chemfig-~\PackageDiagramAltText]}
7     {}{\LWR@patcherror{chemfig}{charge}}
8   \xpretocmd\Charge{\begin{teximage}[-chemfig-~\PackageDiagramAltText]}
9     {}{\LWR@patcherror{chemfig}{Charge}}
10  \xapptocmd\charge_c{\end{teximage}}
11    {}{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \@ifpackagelater{chemfig}{2019/04/18}%
15 {%
16   \xpretocmd{\CF_chemfiga}
17     {\begin{teximage}[-chemfig-~\PackageDiagramAltText]}
18     {}{\LWR@patcherror{chemfig}{CF_chemfiga}}
19
20   \xpatchcmd{\CF_chemfigb}
21     {\let\CF_flipstate\CF_zero}
22     {\end{teximage}\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{teximage}[-chemfig-~\PackageDiagramAltText]%
28     \LWR@chemfig@origCF_lewisc#1,#2\_nil
29     \end{teximage}
30   }
```

```
31
32   \gpreto{\schemestart}{%
33     \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
34   }
35   \gappto{\CF_schemestop}{\end{ lateximage }}
36
37 }% 2019/04/18 or newer
38 {% older than 2019/04/18
39
40   \LetLtxMacro{\LWR@chemfig}{\origchemfig\chemfig}
41
42   \DeclareDocumentCommand{\chemfig}{s O{} O{} m}{%
43     \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
44     \IfBooleanTF{#1}{%
45       \LWR@chemfig@\origchemfig*[#2][#3]{#4}%
46     }{%
47       \LWR@chemfig@\origchemfig[#2][#3]{#4}%
48     }
49     \end{ lateximage }%
50   }
51
52   \LetLtxMacro{\LWR@chemfig}{\origCF@lewis@b\CF@lewis@b}
53
54   \def\CF@lewis@b#1#2{%
55     \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
56     \LWR@chemfig@\origCF@lewis@b{#1}{#2}%
57     \end{ lateximage }%
58   }
59
60   \preto{\schemestart}{%
61     \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
62   }
63   \appto{\CF@schemestop}{\end{ lateximage }}
64
65 }% older than 2019/04/18
66
67 \catcode`\_=8%
68
69
70
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 81 **l warp-chemformula.sty**

§ 189 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@latexitimagedepth}}{>}{0}%
6 {
7   \chemformula_ch:nn {#1} {#2}%
8 } original
```

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}\}%
14 } alt text
15 \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
16 add'l hashing
17 {%
```

```
18           \chemformula_ch:nn {\#1} {\#2}%    original
19       }%
20       \endgroup%
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@subsingledollar*{\% lwarp
29         \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}\%
30     }{%
31         \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}\%
32     }{\% original
33     \group_begin:
34         \tl_if_blank:nF {\#2}
35     {
36         \keys_set:nn {chemformula} {\#1}
37         \__chemformula_save_catcodes:
38         \__chemformula_sanitize: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@subsingledollar*{\% lwarp
60         \textbackslash{}chcpd\{\LWR@HTMLsanitize{\#2}\}\%
61     }{%
62         \protect\LWR@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_sanitize:Nn
```

```

70          \l_chemformula_chemformula_tma_tl
71          {#2}
72          \_chemformula_input_compound_no_check:NV
73          \l_chemformula_compound_tl
74          \l_chemformula_chemformula_tma_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@subsingledollar*\{\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 }
```

```
\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_first_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 82 l warp-chemgreek.sty

#### § 190 Package chemgreek

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by l warp.

**⚠ Greek symbols package selection** 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.

**⚠ X<sub>E</sub>LATEX, L<sub>A</sub>TEX** If using X<sub>E</sub>LATEX or L<sub>A</sub>TEX, 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 83 l warp-chemmacros.sty

#### § 191 Package chemmacros

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros chemmacros is patched for use by lwarp.

for HTML output 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

SVG file hashing assumes that the relevant options are constant for the entire document.

### § 191.1 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}
```

### § 191.2 Code

#### § 191.3 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{\ifchemmacrosmoduleloaded}[1]{%
5   \@ifl@aded{\c__chemmacros_module_extension_tl}{\c__chemmacros_module_prefix_tl.\#1}%
6 }
7
8 \ExplSyntaxOff
```

## § 191.4 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
```

## § 191.5 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   }
```

```
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

```

## § 191.6 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

```

## § 191.7 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:nnnn {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_hapto:n #1
194 {
195     \begingroup
196     \boolfalse{mathjax}
197     \LWR@subsingleollar*\textbackslash{}hapto{\#1}{chemmacros}(
198         \chemmacros_coordination_symbol:nnnn
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

```

### § 191.8 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

```

### § 191.9 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

```

### § 191.10 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

```

### § 191.11 Newman

```

419 \AtBeginDocument{
420 \@ifchemmacrosmoduleloaded{newman}{
421 \PackageInfo{lwarp}{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

```

### § 191.12 Orbital

```

439 \AtBeginDocument{
440 \@ifchemmacrosmoduleloaded{orbital}{
441 \PackageInfo{lwarp}{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

```

### § 191.13 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

```

### § 191.14 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

```

### § 191.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{%
537 \ifchemmacrosmoduleloaded{scheme}{%
538 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}}
539 \ifdefstring{\schemename}{los}{%
540 \SetupFloatingEnvironment{scheme}{%
541 name = \chemmacros_translate:n {scheme-name}%
542 }%
543 }{%
544 }%
545 }% \ifchemmacrosmoduleloaded
546 }% AtBeginDocument
547 }% AtBeginDocument

```

### § 191.16 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     \textsuperscript{#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         \textsuperscript{#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:NTF \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      \__chemmacros_nmr_position:n {#1}
614  }
615 }
616
617 \cs_gset_protected:Npn \__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  \__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             \lwarpl_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 }% lwarpl_chemmacros_nmr_base:VV
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   \__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 macrosmoduleloaded
770 }% AtBeginDocument

```

### § 191.17 Thermodynamics

```

771 \AtBeginDocument{
772 \@ifchemm macrosmoduleloaded{thermodynamics}%
773 \PackageInfo{l warp}{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 84 l warp-chemnum.sty**

§ 192      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 85 l warp-chkfloat.sty****§ 193 Package chkfloat**

Pkg chkfloat chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

**File 86 l warp-chngpage.sty****§ 194 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 87 l warp-cite.sty****§ 195 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\streq{\@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{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citepunct{}{\relax}
```

---

**File 88 l warp-citeref.sty****§ 196 Package C iter e f**

(Emulates or patches code by BJÖRN BRIEL.)

Pkg citeref citeref is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

2 \def\@cprwrite#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     \namexdef{cpr@last@#1}{#2}%
13     \ifundefined{cpr@#1}%
14       {\namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}% l warp
15         \% l warp
16         \namexdef{cpr@#1}{\nameuse{cpr@#1}, % space
17           \LWR@refwithsection{\BaseJobname-autopage-#2}}%
18       }%
19     \fi
20 }
```

---

**File 89 l warp-CJK.sty****§ 197 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 90 l warp-CJKutf8.sty****§ 198 Package CJ K u tf 8**

Pkg CJ K u tf 8 CJ K u tf 8 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 91 l warp-classicthesis.sty

#### § 199 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 92 l warp-cleveref.sty

#### § 200 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 763 to redefine the message which is printed for page number references.

Table 15 on page 517 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     \PackageWarningNoLine{lwarp-cleveref}%
56         Unknown version of cleveref.
57         \protect\cpageref\space will fail.
58     }
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   \ifdefeql{\@@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 93 l warp-clrdblp g.sty****§ 201 Package **clrdblp g****

Pkg **clrdblp g** **clrdblp g** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblp g}[2018/04/21]

---

**File 94 l warp-cmbright .sty****§ 202 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 95 **lwarp-cmdtrack.sty**

§ 203 Package cmdtrack

Pkg cmdtrack cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]  
2 \newcommand{\untrack}[1]{}  
3 \begin{macro}{\untrack}

File 96 **lwarp-colonequals.sty**

## § 204 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{\coloncoloncolonequals}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
9 \CustomizeMathJax{\newcommand{\equalsscolon}{\mathrel{=\text{\scriptsize\texttt{\&}}}{}}
10 \CustomizeMathJax{\newcommand{\equalsscoloncolon}{\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{\&}}}{}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\text{\scriptsize\texttt{\&}}}{}}
23 \end{warpMathJax}
```

---

**File 97 l warp-color.sty****§ 205 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 98 l warp-colortbl.sty****§ 206 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.  
4 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%  
5 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%  
6 \LWR@addtabularcellcolor%  
7 }  
8  
9 \AtBeginDocument{\LWR@formatted{columncolor}}

\LWR@getmynexttoken is used for \rowcolor because it is used inside the data area of the tabular.

\rowcolor [⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩]  
10 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%

```

11   \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
12   \LWR@getmynexttoken%
13 }
14
15 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}

```

\cellcolor [⟨model⟩] {⟨color⟩} [⟨left overhang⟩] [⟨right overhang⟩]

```

16 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
17   \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
18   \LWR@addtabularcellcolor%
19 }
20
21 \AtBeginDocument{\LWR@formatted{cellcolor}}

```

\arrayrulecolor [⟨model⟩] {⟨color⟩}

The HTML version for use outside a tabular. Inside a tabular, \LWR@HTML@arrayrulecolornexttoken is used instead.

```

22 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
23   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
24 }
25
26 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}

```

[⟨model⟩] {⟨color⟩}

The HTML version for use inside a tabular.

```

27 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
28   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
29   \LWR@getmynexttoken%
30 }
31
32 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}

```

\doublerulesepcolor [⟨model⟩] {⟨color⟩}

The version for use outside a tabular.

```

33 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{}
34
35 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}

```

[⟨model⟩] {⟨color⟩}

The version for use inside a tabular.

```

36 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}

```

For MATHJAX, colors are discarded.

```

39 \begin{warpMathJax}

```

```
40 \CustomizeMathJax{\newcommand{\columncolor}[2][]{\LWRabsorbtwooptions}}
41 \CustomizeMathJax{\let\rowcolor\columncolor}
42 \CustomizeMathJax{\let\cellcolor\columncolor}
43 \end{warpMathJax}
```

---

**File 99 l warp-continue.sty****§ 207 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 100 l warp-copyrightbox.sty****§ 208 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 101 **l warp-crop.sty**

§ 209 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 102 **l warp-ctable.sty**

§ 210 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@\CTtabofig\@dfltcTtabofig
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  \let@\CTframerule\@dfltcTframerule

```

```
18  \@CTcaptionskip  \@dfltCTcaptionskip
19  \@CTframesep    \@dfltCTframesep
20  \@CTwidth       \@dfltCTwidth
21  \@CTmaxwidth    \@dfltCTmaxwidth
22  \@CTmincapwidth \@dfltCTmincapwidth
23  \@CTfootertwidth \@dfltCTfootertwidth
24  \def\@CTfactual {\dfltCTframefg}%
25  \def\@CTbgactual {\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    \fi
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    \fi
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    \fi
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    \fi
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}[\@CTLlabel]
91     \fi
92     \@CTdoinside
93     \begin{tabularx}{\linewidth}{#2}%
94       lwarp
95       #4%
96     \end{tabularx}%
97     \def\@CTfootnotes{#3}%
98     \ifx\@CTfootnotes\empty\else% append footnotes, if any
99       \begin{BlockClass}{tnotes}%
100         lwarp
101         #3
102       \end{BlockClass}%
103     \}
104     \ifx\@CTbotcap\undefined\end{sidecaption}\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 103 l warp-cuted.sty****§ 211 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 104 l warp-cutwin.sty****§ 212 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 105 l warp-dblfloatfix.sty****§ 213 Package dblfloatfix**

Pkg dblfloatfix dblfloatfix is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

**File 106 l warp-dblfnote.sty****§ 214 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\DFNallowcbreak{}  
6 \def\DFNinhibitcbreak{}  
7 \def\DFNtrysingle{}  
8 \def\DFNalwaysdouble{}  
9 \def\DFNruleboth{}  
10 \def\DFNruleleft{}
```

---

**File 107 l warp-dcolumn.sty****§ 215 Package dcolumn**

Pkg dcolumn dcolumn is emulated by the l warp core.

1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]

---

**File 108 lwarp-decimal.sty**

§ 216 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 109 lwarp-decorule.sty**

§ 217 Package **decorule**

(Emulates or patches code by PETER FLYNN.)

Pkg decorule **decorule** is patched for use by **lwarp**.

**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 110 lwarp-diagbox.sty**

§ 218 Package **diagbox**

(Emulates or patches code by LEO LIU.)

Pkg diagbox **diagbox** is patched for use by **lwarp**.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]
```

To restore print-mode inside a `lateximage`:

```

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@stoppars%
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 {⟨keys⟩} {⟨A⟩} {⟨T⟩} {⟨B⟩}

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 111 **l warp-dingbat.sty**

§ 219      Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg    dingbat    dingbat is patched for use by l warp.

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 112 **lwarp-DotArrow.sty**

§ 220 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

Pkg DotArrow DotArrow is patched for use by lwarp, 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{\tiny \texttt{\{\\unicode{x21E2}\\}}}}}}
6 \end{warpMathJax}

```

---

File 113 **lwarp-dotlessi.sty**

§ 221 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 114 **l warp-dprogress.sty**

§ 222 Package **dprogress**

Pkg dprogress dprogress is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 115 **l warp-draftcopy.sty**

§ 223 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 116 **l warp-draftfigure.sty**

§ 224 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 117 **l warp-draftwatermark.sty**

§ 225 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 118 **l warp-drftcite.sty**

§ 226 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]{\global\@HighCite\z@\relax
3   \item[
4     \textsuperscript{\@nameuse{DCN@#2@\extra@b@citeb}}\relax\l warp
5     \biblabel{\@ifundefined{DCN@#2@\extra@b@citeb}{\@warning
6       {Reference '#2' on page \thepage\space was never cited}}\relax\%
7     \DC@llap{$^{\@nameuse{DCN@#2@\extra@b@citeb}}$\relax\ }%\relax
8     \citeverb{#2}\hfil]\if@filesw{\def\protect##1{\string ##1\space}\relax
9     \immediate\write\auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

---

File 119 **l warp-easy-todo.sty**

§ 227 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 120 l warp-ebook.sty**

§ 228      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 121 l warp-econometrics.sty**

§ 229      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{_}{\mathrm{#1}}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{#1}}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\mathrm{\nolimits}}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\mathrm{\nolimits}}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3]{\frac{\mathrm{d}^{\mathrm{#1}}\mathrm{#2}}{\mathrm{d}\mathrm{#1}}}}
74 \frac{\mathrm{d}^{\mathrm{#1}}\mathrm{#2}}{\mathrm{d}\mathrm{#1}}}
```

```
75 } }
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%
77   \frac{\partial^{\#1}\#2}{\partial \#3^{\#1}}%
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}{\operatorname{sim}}}
104 \CustomizeMathJax{\newcommand{\adistr}{\operatorname{stackrel{a}{distr}}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\operatorname{diff}_{\operatorname{rf}}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\operatorname{diff}_{\operatorname{rb}}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\operatorname{epsilon}}}
110 \CustomizeMathJax{\newcommand{\epsi}{\operatorname{varepsilon}}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\rightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\operatorname{stackrel{p}{\rightarrow}}}}
114 \CustomizeMathJax{\newcommand{\dto}{\operatorname{stackrel{d}{\rightarrow}}}}
115 \CustomizeMathJax{\newcommand{\wto}{\operatorname{stackrel{w}{\rightarrow}}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm{\mathcal{I}}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{\mathcal{H}}}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm{\mathfrak{1}}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\operatorname{eu}}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\operatorname{ensuremath}{\mathfrak{W}}}}
128 \end{warpMathJax}
```

---

**File 122 l warp-ed.sty**

§ 230 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg ed ed is patched for use by l warp.

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}{\#1 is only a provisional stub\\Large
10       the Office document
11       \ifx\edstubURI\empty\else\href{\edstubURI}{\#2}\fi\
12       contains more text\which will be merged for the final document%}
13     }%
14   \end{center}%
15   \BlockClass[color:blue]{edstub}%
16 }
17 {
18 \endBlockClass}
```

---

**File 123 l warp-ellipsis.sty**

§ 231 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 124 l warp-embrac.sty**

§ 232      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 125 l warp-emptypage.sty**

§ 233      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 126 **l warp-endfloat.sty**

#### § 234 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 127 **l warp-endheads.sty**

#### § 235 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\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13     \endnoteheadersontrue%
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 128 **l warp-endnotes.sty**

## § 236 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 numbering** If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

**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 129 **lwarf-engtlc.sty**

## § 237 Package **engtlc**

(Emulates or patches code by CLAUDIO FIANDRINO.)

Pkg engtlc engtlc is patched for use by lwarf. 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{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\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{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114     #1\mathopen{}\left\lvert\right.\rbrace#2\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}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left.\right|^{\mathit{vert}\#1}\left.\right|_{\mathit{vert}\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left.\right|_{\mathit{vert}\#1}\left.\right|^{\mathit{vert}}}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129     \mathopen{}\left.\right.^{\mathit{vert}_\mathrm{dB}}\mathclose{}}
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\right.^{\mathit{for}\#2}\left.\right.^{\mathit{left}\#1\mathit{right}\mathit{vert}_\mathrm{dB}\left.\right.^{\mathit{vert}\#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathit{analytic}\#1}}}
```

```
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{}\mathopen{\mathrm{d}}}}
```

```
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}{\mathrm{V}}\Gamma}
```

```
143 \CustomizeMathJax{\newcommand{\gammacorr}{\mathrm{I}}\Gamma}
```

```
144 \CustomizeMathJax{\newcommand{\gammatensin}{\mathrm{V}}\Gamma_{\mathrm{#1}}}
```

```
145 \CustomizeMathJax{\newcommand{\gammacorrin}{\mathrm{I}}\Gamma_{\mathrm{#1}}}
```

```
146 \CustomizeMathJax{\newcommand{\gammmain}{\Gamma_{\mathrm{#1}}}}
```

```
147 \CustomizeMathJax{\newcommand{\gammak}{\mathrm{k}}\Gamma}
```

```
148 %
```

```
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
```

```
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
```

```
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
```

```
152 %
```

```
153 \CustomizeMathJax{\newcommand{\potin}{P_{\mathrm{#1}}}}
```

```
154 \CustomizeMathJax{\newcommand{\potdisp}{P_{\mathrm{disp}}^{\#1}}}
```

```
155 \CustomizeMathJax{\newcommand{\potDC}{P_{\mathrm{DC}}^{\#1}}}
```

```
156 \CustomizeMathJax{\newcommand{\potCC}{P_{\mathrm{CC}}^{\#1}}}
```

```
157 \CustomizeMathJax{\newcommand{\potirr}{P_{\mathrm{irr}}^{\#1}}}
```

```
158 \CustomizeMathJax{\newcommand{\potdiss}{P_{\mathrm{diss}}^{\#1}}}
```

```
159 \CustomizeMathJax{\newcommand{\potinc}{P_{\mathrm{inc}}^{\#1}}}
```

```
160 %
```

```
161 \CustomizeMathJax{\newcommand{\z}{Z_{\mathrm{#1}}}}
```

```
162 \CustomizeMathJax{\newcommand{\znorm}{z_{\mathrm{#1}}}}
```

```
163 \CustomizeMathJax{\newcommand{\y}{Y_{\mathrm{#1}}}}
```

```
164 \CustomizeMathJax{\newcommand{\ynorm}{y_{\mathrm{#1}}}}
```

```
165 \CustomizeMathJax{\newcommand{\zinf}{Z_{\infty\#1}}}
```

```
166 \CustomizeMathJax{\newcommand{\zinfn}{z_{\infty\#1}}}
```

```
167 \CustomizeMathJax{\newcommand{\yinf}{Y_{\infty\#1}}}
```

```
168 \CustomizeMathJax{\newcommand{\yinfn}{y_{\infty\#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(t)}}
```

```
178 \CustomizeMathJax{\newcommand{\signf}{\#1(f)}}
```

```
179 \CustomizeMathJax{\newcommand{\signn}{\#1(n)}}
```

```
180 \CustomizeMathJax{\newcommand{\signz}{\#1(z)}}
```

```
181 %
```

```
182 \CustomizeMathJax{\newcommand{\prob}{\mathcal{P}\left(\#1\right)}}
```

```
183 \CustomizeMathJax{\newcommand{\valatt}{\mathbb{E}\left[\#1\right]}}
```

```
184 \CustomizeMathJax{\newcommand{\var}{\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\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltatain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorri}
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\campofas}
223 \CustomizeMathJax{\let\phasorHfield\campohfas}
224 \CustomizeMathJax{\let\given\data}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 130 **lwarf-enotez.sty**

§ 238 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             % \cs_set:cpn {@currentlabel}
84             % { \p@endnote \l__enotez_endnote_mark_tl }
85             \tl_use:N \g__enotez_endnote_text_tl
86             \par
87             \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
88             { \addvspace { \l__enotez_list_notes_sep_dim } }
89         \group_end:
90     }
91     {}
92     \enotez_list_postamble:
93 }
94
95 \ExplSyntaxOff

```

For MATHJAX:

```

96 \begin{warpMathJax}
97 \def\endnotename{endnote}
98 \appto{\LWR@syncnotenumbers}{\LWR@syncconenotenumber{\LWRendnote}{\theendnote}}
99 \appto{\LWR@syncnotenames}{\LWR@syncconenotename{\LWRendnote}{\endnotename}}
100 \CustomizeMathJax{\def{\LWRendnote{1}}}
101 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{\{}^{\mathrm{#1}}\}}}

```

```
102 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{\#1}}}}
```

---

File 131 **l warp-enumerate.sty**

§ 239 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 132 **l warp-enumitem.sty**

§ 240 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 133 **l warp-epigraph.sty**

§ 241 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 134 **lwarf-epsf.sty**

§ 242 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{l warp-epsf}{\epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8   {\end{lateximage}}
9   {}
10 {\LWR@patcherror{l warp-epsf}{\epsfsetgraph-end}}

```

---

File 135 **l warp-epsfig.sty**

§ 243 Package **epsfig**

Pkg epsfig **epsfig** is emulated for use by **l warp**.

 Only the L<sup>A</sup>T<sub>E</sub>X2e 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 136 **l warp-epstopdf.sty**

§ 244 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 137 **`l warp-epstopdf-base.sty`**

## § 245 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\LWR@tempone{\#3}%
4   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6   \xdef\LWR@parsedfilename{\LWR@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 138 l warp-eqlist.sty****§ 246 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{\eqlistaauto}[1]{}%
12 \newcommand{\eqlistnoauto}{}%
```

---

**File 139 l warp-eqparbox.sty****§ 247 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     \minipagewidth%
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@eqsetminwidthhto}[2]{}%
38 \newcommand*{\LWR@HTML@eqsetmaxwidthhto}[2]{}

```

---

#### File 140 **lwarf-errata.sty**

§ 248 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg **errata** **errata** is patched for use by **lwarf**.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarf** 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}\textsuperscript{\@thefnmark}}
35   {}
36   {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39   {$r^{\@thefnmark}$}
40 %   {\inlinemathother_r^{\@thefnmark}\inlinemathnormal}
41   {\textsubscript{r}\textsuperscript{\@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 141 **lwarp-eso-pic.sty**

§ 249 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 142 **l warp-esvect.sty**

##### § 250 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{\LWResvectv}[1]{\overrightarrow{\#1}}}
4 \CustomizeMathJax{\newcommand{\LWResvectvstar}[2]{\overrightarrow{\#1}\!\_!\_{\#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\!LWResvectvstar\!LWResvectv}}
6 \end{warpMathJax}

```

---

#### File 143 **l warp-etoc.sty**

##### § 251 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\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@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\etocableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]({})
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalsize \LARGE \bfseries}
26 \def\etocfontminusone {\normalsize \large \bfseries}
27 \def\etocfontzero   {\normalsize \large \bfseries}
28 \def\etocfontone   {\normalsize \normalsize \bfseries}
29 \def\etocfonttwo   {\normalsize \normalsize}
30 \def\etocfontthree {\normalsize \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\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etoc toclineleaders
48     {\hbox{\normalsize\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*\etoculedstyle[2][]{}
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolorcmd{\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\etocmemoirtotocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etoscrrartclstyle{}
92 \let\etoscrrbookstyle\etoscrrartclstyle
93 \let\etoscrrreprtstyle\etoscrrartclstyle
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\etocignoretocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepttags {}
```

```
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\etoctoclines {}
114 \let\etocaftertohook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

---

**File 144 l warp-eurosym.sty****§ 252 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\officialemuro{\HTMLentity{euro}}
3 \let\geneuro\officialemuro
4 \let\geneuromarrow\officialemuro
5 \let\geneurowide\officialemuro
6 \let\euromuro\officialemuro
7 \renewrobustcmd\europbars{}
8 \renewrobustcmd\europbarsnarrow{}
9 \renewrobustcmd\europbarswide{}
```

---

**File 145 l warp-everypage.sty****§ 253 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 146 l warp-everyshi.sty**

§ 254      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 147 l warp-extarrows.sty**

§ 255      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 148 l warp-extramarks.sty**

§ 256      Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg extramarks extramarks 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 149 `l warp-fancybox.sty`

### § 257 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 `\latextimage`, 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 `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\@footnotetext%
6 \let\LWR@footnotetext\@footnotetext% l warp
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 `lateximage`:

```
16 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
17 \ifthenelse{%
18   \boolean{\LWR@doingstartpars} \AND%
19   \cntttest{\value{\LWR@lateximagedepth}}{=}{0}%
20 }%
21 {}%
22 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
23 \@makefntext{}
```

The footnote text will follow after `\V@@@footnotetext` has completed.

```
24 \bgroup%
25 \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.

```
26 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

```
27 \ignorespaces%
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
62 \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}{\begin{Btrivlist}}{\end{Btrivlist}}
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]\relax%
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\quad#4\quad#3}{%
109 }

```

Neutralized commands:

```

110 \RenewDocumentCommand{\fancyput}{s d() m}{}
111 \RenewDocumentCommand{\thisfancyput}{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 150 **l warp-fancyhdr.sty**

#### § 258 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{\fancyhfini}[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 151 **l warp-fancypar.sty**

§ 259 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 `\textrimage`, 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 definiton 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 152 lwarp-fancyref.sty

§ 260 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 l warp has revised the meaning of \mbox so the comparison failed.)

```
2 \newcommand*\LWRfref@parenfancyrefhook}[1]{#1}
3
4 \ifdefstequal{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6     \renewcommand*\fancyrefhook}[1]{#1}%
7 }
```

---

### File 153 l warp-fancytabs.sty

## § 261 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 154 l warp-fancyvrb.sty

## § 262 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.

**fancybox, fancyvrb**  
 \VerbatimFootnotes or  
 displaymath

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.

```
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% l warp
11 }
```

\V@footnotetext Patches in a subset of `l warp`'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 \ifthenelse{%
22   \boolean{LWR@doingstartpars} \AND%
23   \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
24 }%
25 {}%
26 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote mark to the list:

```
27 \makefntext{}
```

The footnote text will follow after `\V@@@footnotetext` has completed.

```
28 \bgroup%
29 \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.

```
30 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
31 \ignorespaces%
32 }%
```

```
33 \preto\FVB@Verbatim{\LWR@forcenewpage}
34 \preto\LV@Verbatim{\LWR@forcenewpage}
35 % \preto\BV@Verbatim{\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}\ % \textrm preserves emdash%
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@single{%
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 \attempdima\FV@FrameRule\relax%
197 \multiply\attempdima-\tw@%
198 \edef\FV@FrameFillLine{%
199 {\noexpand\FancyVerbFillColor{\vrule@width\number\attempdima sp}%
200 \kern-\number\attempdima 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 %       \ifcscvoid{\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 hbox
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 }
```

```

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 155 **l warp-fbox.sty**

§ 263 Package **fbox**

(Emulates or patches code by HERBERT VOSS.)

Pkg **fbox** **fbox** is patched for use by **l warp**.

**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]{#2}{%
69   \booltrue{\LWR@fboxpkg@ispar}%
70   \FBox@i[#1]{#2}%
71 }
72 \LWR@formatted{FParBox@i}
73
74 \long\def\LWR@HTML@FParBox@ii#1{%
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 156 **l warp-fewerfloatpages.sty**

§ 264 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 157 **l warp-figcaps.sty**

§ 265 Package **figcaps**

(Emulates or patches code by PATRICK W. DALY.)

Pkg figcaps **figcaps** is ignored.  
**for HTML output:** 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 158 **l warp-figsize.sty**

§ 266 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 159 l warp-fitbox.sty****§ 267 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 160 l warp-fix2col.sty****§ 268 Package fix2col**

Pkg fix2col fix2col is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

---

**File 161 l warp-fixmath.sty****§ 269 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 162 **lwarf-fixme.sty**

## § 270 Package **fixme**

(Emulates or patches code by DIDIER Verna.)

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 163 **lwarp-fixmetodonotes.sty**

§ 271 Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

Pkg fixmetodonotes fixmetodonotes is patched for use by lwarp.

**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 164 **l warp-flafter.sty**

§ 272 Package **flafter**

Pkg flafter flafter is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

---


```

File 165 **l warp-flippdf.sty**

§ 273 Package **flippdf**

Pkg flippdf flippdf is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}

---


```

File 166 **l warp-float.sty**

§ 274 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 167 l warp-floatfl t.sty

## § 275 Package **floatfl t**

(Emulates or patches code by MATS DAHLGREN.)

Pkg floatfl t floatfl t is emulated.

**for HTML output:** Discard all options for l warp-floatfl t:

```
1 \LWR@ProvidesPackageDrop{floatfl t}[1997/07/16]
```

Env [⟨⟩] offset {⟨type⟩} {⟨width⟩} Borrowed from the l warp version of keyfloat:

```

2 \NewDocumentEnvironment{KFLTfloatfl t@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`  $[\langle placement \rangle] \{\langle width \rangle\}$

```

31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatflt@marginfloat}}

```

**Env** `floatingtable`  $[\langle placement \rangle]$

```

34 \DeclareDocumentEnvironment{floatingtable}{o}
35 {\begin{KFLTfloatflt@marginfloat}{table}{}}
36 {\end{KFLTfloatflt@marginfloat}}

```

---

### File 168 **l warp-floatpag.sty**

#### § 276 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 169 **l warp-floatrow.sty**

#### § 277 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 170 lwarf-fltrace.sty

#### § 278 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 171 l warp-flushend.sty****§ 279 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 172 l warp-fnbreak.sty****§ 280 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 173 l warp-fncychap.sty****§ 281 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 174 **l warp-fnlineno.sty**

§ 282 Package **fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 175 **l warp-fnpara.sty**

§ 283 Package **fnpara**

Pkg fnpara fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 176 **l warp-fnpos.sty**

§ 284 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 177 **l warp–fontawesome.sty**

#### § 285 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 pdfLATEX, *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 pdfLATEX, 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 178 **l warp–fontawesome5.sty**

§ 286 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 179 **l warp–fontaxes.sty**

§ 287 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 180 **l warp–fontenc.sty**

§ 288 Package **fontenc**

Pkg **fontenc** If using pdflATEX, **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 181 **l warp-footmisc.sty**

§ 289 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 182 **l warp-footnote.sty**

§ 290 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

Pkg **footnote** **footnote** is used with minor patches.

for HTML output: 1 \LWR@ProvidesPackagePass{footnote}[1997/01/28]

Removed print-version formatting:

```

2 \def\fn@startnote{%
3 \% \parboxrestore%
4 \protected@edef@\currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
5 \% \color@begingroup% *** conflicts with l warp
6 }
7
8 \% \let\fn@endnote\color@endgroup% *** conflicts with l warp
9 \def\fn@endnote{%
10 \LWR@htmltagc{/ \LWR@tagregularparagraph}%
11 \LWR@newline%
12 }
```

Removed print-version formatting:

```

13 \def\fn@startfntext{%
14 \setbox\z@\vbox\bgroup%
15 \fn@startnote%
16 \ignorespaces%
17 }
```

Removed print-version formatting, added closing paragraph tag:

```

18 \def\fn@endfntext{%
19 \LWR@htmltagc{/ \LWR@tagregularparagraph}%
20 \LWR@newline%
21 \egroup%
22 \begingroup%
23 \let\@makefntext\empty%
24 \let\@finalstrut\gobble%
25 \LetLtxMacro\rule\gobbletwo% *8* also the optional argument?
26 \footnotetext{\unvbox\z@}%
27 \endgroup%
28 }
```

These have been redefined, so re-\let them again:

```
29 \let\endfootnote\fn@endfntext  
30 \let\endfootnotetext\endfootnote
```

---

File 183 **l warp-footnotebackref.sty**

§ 291 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 184 **l warp-footnotehyper.sty**

§ 292 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 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 185 **l warp-footnoterange.sty**

§ 293 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 186 **l warp-footnpag.sty**

§ 294 Package **footnpag**

Pkg footnpag footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

**File 187 l warp-foreign.sty**

§ 295      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 188 l warp-forest.sty**

§ 296      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 189 **l warp-fouridx.sty**

§ 297 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 190 **l warp-fourier.sty**

§ 298 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 191 *l warp-framed.sty***

§ 299      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 192 l warp-froufrou.sty

§ 300 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 }%

```

l warp

l warp

l warp

```
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 193 l warp-ftcap.sty****§ 301 Package ftcap**

Pkg ftcap ftcap is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

---

**File 194 l warp-fnright.sty****§ 302 Package fnright**

Pkg fnright fnright is ignored.

for HTML output: Discard all options for l warp-fnright:

1 \LWR@ProvidesPackageDrop{fnright}[2014/10/28]

---

**File 195 l warp-fullminipage.sty****§ 303 Package fullminipage**

Pkg fullminipage fullminipage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

2 \newenvironment{fullminipage}[1]{}{}{}

---

**File 196 l warp-fullpage.sty****§ 304 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 197 **l warp-fullwidth.sty**

§ 305 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 198 **l warp-fvextra.sty**

§ 306 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\relax}
6 %   {\let\relax\relax\let\let\relax\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@septthenline}{%
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@septthenline}%
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@septthenline}%
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 199 **l warp-fwlw.sty**

§ 307 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 200 **l warp-gensymb.sty**

§ 308 Package **gensymb**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg gensymb **gensymb** works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
4 \CustomizeMathJax{\newcommand{\celsius}{\text{\textnormal{\'{e}c}}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\text{\textnormal{\'{e}c}}}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
8 \end{warpMathJax}
```

---

File 201 **l warp-gentombow.sty**

§ 309 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 202 **l warp-geometry.sty**

§ 310 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 `\AtBeginDocument`. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometr}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `\l warp` will save this, then set its own geometry.

```
3     \edef\tempone{\reset,\@optionlist{\currname.\currext}}%
4     \expandafter\origgeometry\expandafter{\tempone}%
5 }{}% LWR@allowanothergeometr
```

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 203 `l warp-ghsystem.sty`

## § 311 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 pdf2svg images/*.pdf`

**for HTML output:** `\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 204 **l warp-gindex.sty**

§ 312 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 \indexpagesep and \indexrangesep instead of their literal contents. Finally, l warp is told of the gindex macros.

```
2 \AtBeginDocument{  
3   \robustify{\indexpagesep}  
4   \robustify{\indexrangesep}  
5   \renewcommand*\{\IndexPageSeparator}{\indexpagesep}  
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 205 **lwarf-gloss.sty**

§ 313 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 206 **lwarf-glossaries.sty**

§ 314 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 207 **lwarf-gmeometric.sty**

§ 315 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop[gmeometric][2008/11/22]  
2 \RequirePackageWithOptions{geometry}

---

File 208 **l warp-graphics.sty**

§ 316      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]

§ 316.1 **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
```

## § 316.2 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}{}%
```

### § 316.3 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 }
```

### § 316.4 \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 lateximage.

```
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                 \global\sbox{\LWR@imagesizebox}{%
174                     \LWR@originincludegraphics*[#2][#3]{#4}%
175                 }%
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}%
```

```

301   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
302   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
303   \LWR@replaceEPSSVG%
304   \xdef\LWR@parsedfilename{\LWR@tempone}%
305   \Ginclusion@graphics{\detokenize\expandafter{\LWR@tempone}}%
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   {% start of href
317     \LWR@traceinfo{\LWR@includegraphicsb: about to \LWR@htmltag}%
318     \LWR@htmltag{\LWR@ig@htmltag}%
319   }% 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@origin\includegraphics}{\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
```

### § 316.5 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-}{}\LWR@indentHTML
368     \LWR@rotstyle{-webkit-}{}\LWR@indentHTML
369     \LWR@rotstyle{}{}\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 {⟨text⟩}

```
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 {⟨h-length⟩} {⟨v-length⟩} {⟨text⟩}

Simply prints its text argument.

```
407 \AtBeginDocument{
408
409 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m}{%
```

```
410      #4%
411 }
412
413 \LWR@formatted{resizebox}
414
415 }% AtBeginDocument
```

---

#### File 209 **l warp-graphicx.sty**

### § 317 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 210 **l warp-grffile.sty**

### § 318 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 211 **l warp-grid.sty**

### § 319 Package **grid**

Pkg **grid** **grid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

2 \newenvironment\*{gridenv}{}{}

---

**File 212 l warp-grid-system.sty****§ 320 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 213 l warp-gridset.sty****§ 321 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*\thenposinfo[1]{\thenposinfo}
12 \newcommand*\theypos[1]{\theypos}
```

---

**File 214 l warp-hang.sty****§ 322 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   \let\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 215 **l warp-hanging.sty**

§ 323 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 216 **lwarp-hepunits.sty**

§ 324 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 217 **l warp-hhline.sty**

§ 325 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 218 **l warp-hhtensor.sty**

§ 326 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@uline
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}}{\#1}}}
20  \fi
21 \fi
22 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
23 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
24 \end{warpMathJax}
```

---

File 219 **l warp-hypbmsec.sty**

§ 327 Package **hypbmsec**

Pkg hypbmsec hypbmsec is emulated by the l warp core.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 220 **l warp-hypcap.sty**

§ 328 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 221 **l warp-hypdestopt.sty**

§ 329 Package **hypdestopt**

Pkg hypdestopt **hypdestopt** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 222 **l warp-hypernat.sty**

§ 330 Package **hypernat**

Pkg hypernat **hypernat** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 223 **l warp-hyperref.sty**

§ 331 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 L<sup>A</sup>T<sub>E</sub>X 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     \begingroup%
340     \LWR@linkcatcodes%
341     \LWR@hypertargetb%
342 }
```

\hyperlink {⟨name⟩} {⟨text⟩}

Creates a link to the anchor created by hypertarget, with the given link text.

Declared because also defined by memoir.

```
343 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
344     \ifbool{\LWR@insidemathcomment}{%
345         \endgroup%
346         {\LWR@hyperrefcb[LWR-ht-#1]}%
347 }
```

---

```

348
349 \DeclareDocumentCommand{\hyperlink}{}{%
350     \LWR@ensuredoingapar%
351     \begingroup%
352     \LWR@linkcatcodes%
353     \LWR@hyperlinkb%
354 }
```

\autoref \* {*label*}

For HTML, \cleveref is used instead.

```

355 \NewDocumentCommand{\autoref}{s m}{%
356     \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
357 }
```

\autopageref {*label*}

For HTML, \cleveref is used instead.

```

358 \NewDocumentCommand{\autopageref}{s m}{%
359     \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
360 }
```

Default names:

```

361 \def\equationautorefname{Equation}%
362 \def\footnoteautorefname{footnote}%
363 \def\itemautorefname{item}%
364 \def\figureautorefname{Figure}%
365 \def\tableautorefname{Table}%
366 \def\partautorefname{Part}%
367 \def\appendixautorefname{Appendix}%
368 \def\chapterautorefname{chapter}%
369 \def\sectionautorefname{section}%
370 \def\subsectionautorefname{subsection}%
371 \def\subsubsectionautorefname{subsubsection}%
372 \def\paragraphautorefname{paragraph}%
373 \def\ subparagraphautorefname{subparagraph}%
374 \def\FancyVerbLineautorefname{line}%
375 \def\theoremautorefname{Theorem}%
376 \def\pageautorefname{page}%
```

\pdfstringdef {*macroname*} {*TEXstring*}

```
377 \newcommand{\pdfstringdef}[2]{}
```

\pdfbookmark [⟨level⟩] {⟨text⟩} {⟨name⟩}

```
378 \newcommand{\pdfbookmark}[3][]{}
```

\currentpdfbookmark {⟨text⟩} {⟨name⟩}

```
379 \newcommand{\currentpdfbookmark}[2]{}
```

```
\subpdfbookmark  {\langle text\rangle} {\langle name\rangle}
380 \newcommand{\subpdfbookmark}[2]{}

\belowpdfbookmark {\langle text\rangle} {\langle name\rangle}
381 \newcommand{\belowpdfbookmark}[2]{}

\texorpdfstring {\langle TEXstring\rangle} {\langle PDFstring\rangle}
382 \let\texorpdfstring\relax
383 \newcommand{\texorpdfstring}[2]{\#1}

\pdfstringdefDisableCommands {\langle commands\rangle}
384 \newcommand{\pdfstringdefDisableCommands}[1]{}

\hypercalcbp {\langle dimen\rangle} From \hyperref.
385 \def\hypercalcbp#1{%
386   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
387 }%

\Acrobatmenu {\langle menuoption\rangle} {\langle text\rangle}
388 \newcommand{\Acrobatmenu}[2]{}

\TextField  [\langle parameters\rangle] {\langle label\rangle}
389 \DeclareRobustCommand{\TextField}[2][]{}

\CheckBox  [\langle parameters\rangle] {\langle label\rangle}
390 \DeclareRobustCommand{\CheckBox}[2][]{}

\ChoiceMenu [\langle parameters\rangle] {\langle label\rangle} {\langle choices\rangle}
391 \DeclareRobustCommand{\ChoiceMenu}[3][]{}

\PushButton  [\langle parameters\rangle] {\langle label\rangle}
392 \DeclareRobustCommand{\PushButton}[2][]{}

\Submit  [\langle parameters\rangle] {\langle label\rangle}
393 \DeclareRobustCommand{\Submit}[2][]{}

\Reset  [\langle parameters\rangle] {\langle label\rangle}
394 \DeclareRobustCommand{\Reset}[2]{}

---


```

```
\Gauge    [⟨parameters⟩] {⟨label⟩}
395 \DeclareRobustCommand{\Gauge}[2][]{}

\LayoutTextField  {⟨label⟩} {⟨field⟩}
396 \newcommand*{\LayoutTextField}[2]{}

\LayoutChoiceField {⟨label⟩} {⟨field⟩}
397 \newcommand*{\LayoutChoiceField}[2]{}

\LayoutCheckField {⟨label⟩} {⟨field⟩}
398 \newcommand*{\LayoutCheckField}[2]{}

\MakeRadioField   {⟨width⟩} {⟨height⟩}
399 \newcommand*{\MakeRadioField}[2]{}

\MakeCheckField   {⟨width⟩} {⟨height⟩}
400 \newcommand*{\MakeCheckField}[2]{}

\MakeTextField    {⟨width⟩} {⟨height⟩}
401 \newcommand*{\MakeTextField}[2]{}

\MakeChoiceField  {⟨width⟩} {⟨height⟩}
402 \newcommand*{\MakeChoiceField}[2]{}

\MakeFieldButton  {⟨text⟩}
403 \newcommand{\MakeFieldButton}[1]{}
```

---

#### File 224 l warp-hyperxmp.sty

#### § 332 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 225 **l warp-hyphenat.sty**

## § 333      Package **hyphenat**

Pkg **hyphenat** **hyphenat** is emulated during **HTML** output, while the print-mode version is used inside a **lateXimage**.

**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 226 **l warp-idxlayout.sty**

#### § 334 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 227 l warp-ifoddpage.sty****§ 335 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 228 l warp-imakeidx.sty****§ 336 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{lwarf-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     \let\item\lwr@indexitem%
61     \let\subitem\lwr@indexsubitem%
62     \let\subsubitem\lwr@indexsubsubitem%
63 }

```

```

\imki@wrindexentrysplit {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}
\imki@wrindexentryunique {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}

```

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   \let\item\LWR@indexitem%
123   \let\subitem\LWR@indexsubitem%
124   \let\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 229 l warp-impnattypo.sty****§ 337 Package **impnattypo****

Pkg **impnattypo** **impnattypo** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{impnattypo}[2019/03/04]

---

**File 230 l warp-index.sty****§ 338 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     \let\item\LWR@indexitem%
41     \let\subitem\LWR@indexsubitem%
42     \let\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 231 l warp-inputtrc.sty

§ 339 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 232 **l warp-intopdf.sty**

#### § 340 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 233 **l warp-isomath.sty**

#### § 341 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{\mathsf{\mathbf{\boldsymbol}}}}
9 \CustomizeMathJax{\let\mathbold{\mathsf{\mathbf{\boldsymbol}}}}
10 \CustomizeMathJax{\let\mathbold{\mathbf{\boldsymbol}}}
11 \CustomizeMathJax{\let\mathsf{\mathit{\mathbf{\boldsymbol}}}% not sans
12 \end{warpMathJax}

```

---

File 234 **l warp-isotope.sty**

§ 342 Package **isotope**

(Emulates or patches code by HEIKO BAUKE.)

Pkg 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                \setwidt\h@tempdimb{%
25                    \ensuremath{\scriptstyle\isotope@nucleonnumber}%
26                }%
27                \setwidt\h@tempdimc{%
28                    \ensuremath{\scriptstyle\isotope@atomicnumber}%
29                }%
30                \ifdim\h@tempdimb<\h@tempdimc\h@tempdimb=\h@tempdimc\fi%
31                \ensuremath{%
32                    \makebox[\h@tempdimb][r]{%
33                        \scriptstyle\isotope@nucleonnumber%
34                    }%
35                }%
36                \makebox[\h@tempdimb][r]{%
37                    \scriptstyle\isotope@atomicnumber%
38                }%
39                \isotopestyle{#2}%
40            }%
41        }%
42    }%
43    \ensuremath{}
```

```

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 235 **lwarf-jurabib.sty**

#### § 343 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 lwarf
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 236 **lwarf-karnaugh-map.sty**

§ 344 Package **karnaugh-map**

*(Emulates or patches code by MATTIAS JACOBSSON.)*

Pkg karnaugh-map karnaugh-map is patched for use by lwarf.

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 \& \phantom{0} \\
26          0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&           \\
27          1 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&           \\
28          \phantom{0} \&           \&           \&           \\
29        }%
30      \fi
31      \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizey@=\@karnaughmap@var@mapsizel@=241
32        \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
33          \&          0 \&          1 \& \phantom{00} \\
34          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \&           \\
35          01 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \&           \\
36          11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \&           \\
37          10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&           \\
38          \phantom{00} \&           \&           \&           \\
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 \& \phantom{000} \\
44          0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \\
45          1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \\
46          \phantom{000} \&           \&           \&           \&           \\
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 \& \phantom{0000} \\
52          00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \\
          01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \\
        }%
      }%
    }%
  }%
}
```

```

53           11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(0011
54           10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(0010
55           \phantom{00} \&           \&           \&           \&           \&
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 \& \phantom{0}
61     00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(0000
62     01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(0001
63     11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(0011
64     10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(0010
65     \phantom{00} \&           \&           \&           \&           \&
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 \& \phantom{0}
72     00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(0000
73     01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(0001
74     11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(0011
75     10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(0010
76     \phantom{00} \&           \&           \&           \&           \&
77     00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(1000
78     01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(1001
79     11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(1011
80     10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(1010
81     \phantom{00} \&           \&           \&           \&           \&
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 237 **l warp-keyfloat.sty**

§ 345 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 \end\KFLT@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      \ifcseempty{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 [⟨offset⟩] {⟨type⟩}

```

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{\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 238 **lwarf-keystroke.sty**

§ 346 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 239 **l warp-kpfonts.sty**

§ 347 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 240 **l warp-kpfonts-otf.sty**

§ 348 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 241 l warp-layaureo.sty****§ 349 Package **layaureo****

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

**File 242 l warp-layout.sty****§ 350 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 243 l warp-layouts.sty****§ 351 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 244 **l warp-leading.sty**

### § 352 Package **leading**

Pkg **leading** **leading** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand\leading[1]{}  

---

#### File 245 **l warp-leftidx.sty**

### § 353 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 246 **l warp-letterspace.sty**

### § 354 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 247 **l warp-lettrine.sty**

§ 355 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 248 **l warp-libertinust1math.sty**

§ 356 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{\scriptsize\texttt{unicode{x222C}}}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\text{\scriptsize\texttt{unicode{x222D}}}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\text{\scriptsize\texttt{unicode{x2A0C}}}}\limits}}
82 \CustomizeMathJax{\let\ointupop\oint}
83 \CustomizeMathJax{\newcommand{\ointupop}{\mathop{\text{\scriptsize\texttt{unicode{x222F}}}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\text{\scriptsize\texttt{unicode{x2230}}}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\text{\scriptsize\texttt{unicode{x222C}}}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\text{\scriptsize\texttt{unicode{x222D}}}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiiiint}{\mathop{\text{\scriptsize\texttt{unicode{x2A0C}}}}\limits}}
89 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\text{\scriptsize\texttt{unicode{x222E}}}}\limits}}
90 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\text{\scriptsize\texttt{unicode{x222F}}}}\limits}}
91
92 \CustomizeMathJax{\let\inttop\int}
93 \CustomizeMathJax{\newcommand{\iinttop}{\mathop{\text{\scriptsize\texttt{unicode{x222C}}}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiinttop}{\mathop{\text{\scriptsize\texttt{unicode{x222D}}}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiiinttop}{\mathop{\text{\scriptsize\texttt{unicode{x2A0C}}}}\limits}}
96 \CustomizeMathJax{\let\ointtop\oint}
97 \CustomizeMathJax{\newcommand{\ointtop}{\mathop{\text{\scriptsize\texttt{unicode{x222F}}}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiinttop}{\mathop{\text{\scriptsize\texttt{unicode{x2230}}}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\scriptsize\texttt{unicode{x222F}}}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\text{\scriptsize\texttt{unicode{x2A03}}}}\limits}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\text{\scriptsize\texttt{unicode{x2A05}}}}\limits}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\text{\scriptsize\texttt{unicode{x29F8}}}}\limits}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\text{\scriptsize\texttt{unicode{x29F9}}}}\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{\#1\text{\scriptsize\texttt{unicode{x00309}}}}\limits}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x00310}}}}\limits}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x00312}}}}\limits}}
126 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x00315}}}}\limits}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x0031A}}}}\limits}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x20D0}}}}\limits}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x20D1}}}}\limits}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x20D0}}}}\limits}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightarrowaccent}[1]{\mathord{\#1\text{\scriptsize\texttt{unicode{x20E1}}}}\limits}}
```

```

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{\bracecl}{\{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{\}}
141 \CustomizeMathJax{\newcommand{\braceclu}{\{}}
142 \CustomizeMathJax{\newcommand{\braceru}{\}}
143 \CustomizeMathJax{\newcommand{\braceex}{\{}}
144 \CustomizeMathJax{\newcommand{\braceemu}{\}}
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}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
167 \CustomizeMathJax{\newcommand{\smblkcircle}{\mathbin{\unicode{x2022}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\unicode{x2025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x2026}}}}
170 \CustomizeMathJax{\newcommand{\mathellipsis}{\mathinner{\unicode{x2026}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x2033}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\unicode{x2034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x2036}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x2037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x2038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x2043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x2044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x2047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x2050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x2057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x20D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x20DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x20DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x20E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x2107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x2129}}}}

```



```

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\leftarrow}
323 \CustomizeMathJax{\let\nsimeq\simeq}
324 \CustomizeMathJax{\let\nleq\leq}
325 \CustomizeMathJax{\let\ngt\geq}
326
327 \end{warpMathJax}

```

---

#### File 249 **lwarp-lineno.sty**

§ 357      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 250 **lwarf-lips.sty**

§ 358      Package **lips**

(Emulates or patches code by MATT SWIFT.)

Pkg lips lips is emulated.

```
1 \% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{lwarf}{Using the lwarf version of package ‘lips’.%}
3 \ProvidesPackage{lwarf-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 251 **lwarf-lipsum.sty**

§ 359 Package **lipsum**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg lipsum lipsum is patched for use by lwarf.

for HTML output 1 \LWR@ProvidesPackagePass{lipsum}[2021-03-03]

2 \SetListParListEnd{\LWR@closeparagraph}

---

File 252 **lwarf-listings.sty**

§ 360 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 }
```

```

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 253 l warp-listliketab.sty****§ 361 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 254 l warp-lltjext.sty****§ 362 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 255 **l warp-longtable.sty**

§ 363 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`.)

```

\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 ...
\warppHTMLonly{
[ <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`.

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{\LTcaptype}%
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 \providetcommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
76 \LWR@formatted{tabularnewline}
```

```

77 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
78 \newlength{\LTleft}
```

```
79 \newlength{\LTright}
80 \newlength{\LTpre}
81 \newlength{\LTpost}
82 \newlength{\LTcapwidth}

83 \LetLtxMacro{\LWR@origkill}{\kill}
84 \renewcommand*{\kill}{\LWR@tabularendofline}
85 \appto{\LWR@restoreorigformatting}{%
86 \LetLtxMacro{\kill}{\LWR@origkill}%
87 }
```

---

**File 256 l warp-lpic.sty****§ 364 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 257 l warp-lscape.sty****§ 365 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 258 l warp-ltablex.sty****§ 366 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 259 l warp-ltcaption.sty

§ 367 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 260 l warp-ltxgrid.sty

§ 368 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 261 **lwarp-ltxtable.sty**

##### § 369 Package **ltxtable**

Pkg ltxtable ltxtable is emulated.

⚠ **table numbering** The print version does not seem to honor `longtable*` from the `caption` package, while `lwarp` 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 262 **lwarp-lua-check-hyphen.sty**

##### § 370 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 263 **lwarp-lua-visual-debug.sty**

##### § 371 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 264 **lwarp-luacolor.sty**

##### § 372 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]  
2 \newcommand{\luacolorProcessBox}[1]{}

---

File 265 **l warp-luamplib.sty**

§ 373 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 266 **l warp-luatexko.sty**

§ 374 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{luatexko}[2020/03/20]  
2 \newcommand{\LWR@HTML@dotemph}[1]{%  
3 \% \underline{\#1} %  
4 \InlineClass{text-emphasis-style: dot}{dotemph}{\#1} %  
5 }  
6 \LWR@formatted{dotemph}  
7  
8 \newcommand{\LWR@HTML@ruby}[2]{%  
9 \LWR@htmltagc{\ruby} %  
10 \LWR@htmltagc{\rb}\#1\LWR@htmltagc{/rb} %  
11 \LWR@htmltagc{\rp}(\LWR@htmltagc{/rp}) %  
12 \LWR@htmltagc{\rt}\#2\LWR@htmltagc{/rt} %  
13 \LWR@htmltagc{\rp})\LWR@htmltagc{/rp} %  
14 \LWR@htmltagc{/ruby} %  
15 }  
16 \LWR@formatted{ruby}

The following is modified from `lwarp-ulem`:

```
17 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
18     \InlineClass%
19         (text-decoration:underline; text-decoration-skip: auto)%
20         [%]
21             text-underline-offset: \ulinedown ;
22             text-decoration-thickness: \ulinewidth%
23         ]%
24     {uline}{\LWR@isolate{#1}}%
25 }
26 \LWR@formatted{uline}
27
28 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
29     \InlineClass%
30     (%
31         text-decoration:underline; text-decoration-skip: auto;%
32         text-decoration-style:double%
33     )%
34     [%]
35         text-underline-offset: \ulinedown ;
36         text-decoration-thickness: \ulinewidth%
37     ]%
38     {uuline}{\LWR@isolate{#1}}%
39 }
40 \LWR@formatted{uuline}
41
42 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
43     \InlineClass%
44     (%
45         text-decoration:underline; text-decoration-skip: auto;%
46         text-decoration-style:wave%
47     )%
48     [%]
49         text-underline-offset: \ulinedown ;
50         text-decoration-thickness: \ulinewidth%
51     ]%
52     {uwave}{\LWR@isolate{#1}}%
53 }
54 \LWR@formatted{uwave}
55
56 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
57     \InlineClass%
58         (text-decoration:line-through)%
59         [text-decoration-thickness: \ulinewidth]%
60     {sout}{\LWR@isolate{#1}}%
61 }
62 \LWR@formatted{sout}
63
64 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
65     \InlineClass%
66         (text-decoration:line-through)%
67         [text-decoration-thickness: \ulinewidth]%
68     {xout}{\LWR@isolate{#1}}%
69 }
```

```

70 \LWR@formatted{xout}
71
72 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
73     \InlineClass{%
74         (%
75             text-decoration:underline;%
76             text-decoration-skip: auto;%
77             text-decoration-style:dashed%
78         )%
79     }[%
80         text-underline-offset: \ulinedown ;
81         text-decoration-thickness: \ulinewidth%
82     ]%
83     {dashuline}{\LWR@isolate{#1}}%
84 }
85 \LWR@formatted{dashuline}
86
87 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
88     \InlineClass{%
89         (%
90             text-decoration:underline;%
91             text-decoration-skip: auto;%
92             text-decoration-style: dotted%
93         )%
94     }[%
95         text-underline-offset: \ulinedown ;
96         text-decoration-thickness: \ulinewidth%
97     ]%
98     {dotuline}{\LWR@isolate{#1}}%
99 }
100 \LWR@formatted{dotuline}

```

File 267 **lwarf-luatodonotes.sty**

§ 375 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}{\l@do}{#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@currentfigcolor}%
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 268 **lwarf-luavlna.sty**

#### § 376 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

Pkg luavlna luavlna is patched for use by lwarf.

The package is disabled for HTML output, due to incompatibilities with lwarf's handling of math SVG images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]

2 \preventsingleoff  
3 \LetLtxMacro{\preventsingleon}{\preventsingleoff}

---

#### File 269 **lwarf-lyluatex.sty**

#### § 377 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS Liska, BR. SAMUEL SPRINGUEL.)

Pkg lyluatex lyluatex is patched for use by lwarf.

For the first compile, to set *lwarfmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

**⚠️ images** After compiling the document with **lwarfmk html**, use **lwarfmk limages** 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 `lyluate`, which defaults to `display: inline-block`.

**⚠️ insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. **css** Each music “fullpage” image is placed inside a `<div>` of class `lyluate`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluate` options for page and staff sizes.

**⚠️ options** To use `\linewidth` or `\textwidth` inside the package options for `lyluate`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluate}
```

**⚠️ raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

```
Enter ⇒ lwarfmk pdftosvg tmp-ly/*.pdf
```

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluate}[2019/05/27]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluateImageAltText}{-lilypond-\PackageDiagramAltText}
```

```
\ly@compilescore {\langle Lilypond object\rangle}
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 `lyluate.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 `lyluate`.

`\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 270 l warp-magaz.sty****§ 378 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 271 l warp-makeidx.sty****§ 379 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 272 l warp-manyfoot.sty****§ 380 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 pdfLATEX. 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 pdfLATEX.

**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{nccfoot}
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}{}{\% not "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}{}{ not "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 273 lwarf-marginal.sty

## § 381 Package **marginal**

Pkg **marginal** **marginal** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{marginal}

```
2 \newcommand*{\showlostmarginals}{}  
3 \newcommand*{\enlargefreelist}{}  
4 \newcommand*{\onesidemarginals}{}  


---


```

**File 274 l warp-marginfit.sty****§ 382 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 275 l warp-marginfix.sty****§ 383 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 276 l warp-mARGINnote.sty****§ 384 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*{\marginnoteleftadjust}{}%
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][]{}}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\quad{\small\textrm{#2}}}\LWRmarginnote}
17 \end{warpMathJax}

```

---

### File 277 **l warp-marvosym.sty**

#### § 385 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 278 l warp-mathalpha.sty****§ 386 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}{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbcal}{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbfrak}{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbscr}{\boldsymbol{\mathscr{#1}}}}% not bold
8 \end{warpMathJax}
```

---

**File 279 l warp-mathastext.sty****§ 387 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]{\mathbf{#1}}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{\mathbf{#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{\inftypsy}{\mathord{\text{\scriptsize\texttt{x221E}}}}}
39 \CustomizeMathJax{\newcommand{\proptpsy}{\mathrel{\text{\scriptsize\texttt{x221D}}}}}
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{x2234}}}}}
45 \end{warpMathJax}

```

---

File 280 **lwarp-mathcomp.sty**

§ 388 Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

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{\tccelsius}{\text{\scriptsize\texttt{x2103}}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\text{\scriptsize\texttt{x00B5}}}}}
6 \CustomizeMathJax{\newcommand{\tcperthousand}{\text{\scriptsize\texttt{x2030}}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\text{\scriptsize\texttt{x2031}}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}

```

---

File 281 **l warp-mathdesign.sty**

§ 389    Package **mathdesign**

(Emulates or patches code by PAUL PICHAREAU.)

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{\digammait}{\mathit{\digammaup}}}}
```

Extra symbols:

```
22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicodex{220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicodex{220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}}{\unicodex{220A}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}}{\unicodex{220D}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicodex{221F}}}}
```

Integrals:

```
27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicodex{2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicodex{2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlclockwise}{\mathop{\unicodex{2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicodex{222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oioint}{\mathop{\unicodex{2230}}\limits}}
```

Math and text mode:

```
32 \CustomizeMathJax{\newcommand{\ddag}{\unicodex{2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicodex{00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicodex{00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicodex{2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicodex{00A3}}}
```

Extra symbols:

```
37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicodex{22F0}}}}
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 282 **lwarp-mathdots.sty**

### § 390 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{\unicodex{22F0}}}}
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\originalidots\iddots}
10 \CustomizeMathJax{\let\originalddot\ddot}
11 \CustomizeMathJax{\let\originalddddot\dddot}
12 \end{warpMathJax}
```

---

**File 283 l warp-mathfixs.sty****§ 391 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{\.}{\,,}}
8 \end{warpMathJax}
```

---

**File 284 l warp-mathpazo.sty****§ 392 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 285 **lwarp-mathptmx.sty**

§ 393 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 286 **lwarp-mathspec.sty**

§ 394 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\LRorigbeta\beta}
26         \CustomizeMathJax{\let\beta\varbeta}
27         \CustomizeMathJax{\let\varbeta\LRorigbeta}
28     }
29     \eu@ifbooltrue{changeepsilonforms}{
30         \CustomizeMathJax{\let\LRorigepsilon\epsilon}
31         \CustomizeMathJax{\let\epsilon\varepsilon}
32         \CustomizeMathJax{\let\varepsilon\LRorigepsilon}
33     }
34     \eu@ifbooltrue{exchangethetafoms}{
35         \CustomizeMathJax{\let\LRorigtheta\theta}
36         \CustomizeMathJax{\let\theta\vartheta}
37         \CustomizeMathJax{\let\vartheta\LRorigtheta}
38     }
39     \eu@ifbooltrue{exchangepkappaforms}{
40         \CustomizeMathJax{\let\LRorigkappa\kappa}
41         \CustomizeMathJax{\let\kappa\varkappa}
42         \CustomizeMathJax{\let\varkappa\LRorigkappa}
43     }
44     \eu@ifbooltrue{exchangepiiforms}{
45         \CustomizeMathJax{\let\LRorigpi\pi}
46         \CustomizeMathJax{\let\pi\varpi}
47         \CustomizeMathJax{\let\varpi\LRorigpi}
48 }
```

```

49   \eu@ifbooltrue{exchangerhoforms}{
50     \CustomizeMathJax{\let\LWRorigrho\rho}
51     \CustomizeMathJax{\let\rho\varrho}
52     \CustomizeMathJax{\let\varrho\LWRorigrho}
53   }
54   \eu@ifbooltrue{exchangephiforms}{
55     \CustomizeMathJax{\let\LWRorigphi\phi}
56     \CustomizeMathJax{\let\phi\varphi}
57     \CustomizeMathJax{\let\varphi\LWRorigphi}
58   }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61   \eu@ifbooltrue{exchageThetaforms}{
62     \CustomizeMathJax{\let\LWRorigTheta\Theta}
63     \CustomizeMathJax{\let\Theta\varTheta}
64     \CustomizeMathJax{\let\varTheta\LWRorigTheta}
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 287 `l warp-mathtools.sty`

## § 395 Package **mathtools**

(Emulates or patches code by MORTEN HØGHLØM, 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 \dots \\
\end{gathered}
```

- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.

- Due to MATHJAX limitations, the following do not render well: \overbracket, \underbracket, \overbrace, \underbrace, rcases, drcases, \Aboxed, and \ArrowBetweenLines.
- For the new cases-like environments, \text must be used to set the normal roman font if desired.
- 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 lwarp uses cleveref, which is not compatible with showonlyrefs.

```
4 \renewcommand*\MT_showonlyrefs_true:{%
5   \PackageWarningNoLine{lwarp}%
6   {%
7     Mathtools \space showonlyrefs \space conflicts \space
8     with \space cleveref, \MessageBreak
9     which \space is \space used \space by \space lwarp, \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 lwarp.

```
17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}%
18 \mathtoolsset{mathic=false}%
19 \MHInternalSyntaxOff
```

For MATHJAX:

```
20 \begin{warpMathJax}%
21 \LWR@infoprocessingmathjax{mathtools}%
22 %
23 \CustomizeMathJax{\newcommand{\mathllap}[2][]{\#1\#2}}%
24 \CustomizeMathJax{\newcommand{\mathrlap}[2][]{\#1\#2}}%
25 \CustomizeMathJax{\newcommand{\mathclap}[2][]{\#1\#2}}%
26 \CustomizeMathJax{\newcommand{\mathmbox}[1]{\#1}}%
27 \CustomizeMathJax{\newcommand{\clap}[1]{\#1}}%
```

```
28 \CustomizeMathJax{\newcommand{\LWRmathmakebox}[2][]{#2}}
29 \CustomizeMathJax{\newcommand{\mathmakebox}[1][]{\LWRmathmakebox}}
30 \CustomizeMathJax{\newcommand{\cramped}[2][]{#1#2}}
31 \CustomizeMathJax{\newcommand{\crampedllap}[2][]{#1#2}}
32 \CustomizeMathJax{\newcommand{\crampedrlap}[2][]{#1#2}}
33 \CustomizeMathJax{\newcommand{\crampedclap}[2][]{#1#2}}
34 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
35 \CustomizeMathJax{\newcommand{\crampedsubstack}{}}

36 \CustomizeMathJax{\newcommand{\smashoperator}[2][]{#2\limits}}

37 \CustomizeMathJax{\newcommand{\adjustlimits}{}}

38 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
39
40 \CustomizeMathJax{\require{extpfeil}}
41 \CustomizeMathJax{\Newextarrow\xleftrightarrow{10,10}{0x2194}}
42 \CustomizeMathJax{\Newextarrow\xLeftarrow{10,10}{0x21d0}}
43 \CustomizeMathJax{\Newextarrow\xhookleftarrow{10,10}{0x21a9}}
44 \CustomizeMathJax{\Newextarrow\xmapsto{10,10}{0x21a6}}
45 \CustomizeMathJax{\Newextarrow\xRightarrow{10,10}{0x21d2}}
46 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21d4}}
47 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21aa}}
48 \CustomizeMathJax{\Newextarrow\xrightharpoondown{10,10}{0x21c1}}
49 \CustomizeMathJax{\Newextarrow\xleftharpoondown{10,10}{0x21bd}}
50 \CustomizeMathJax{\Newextarrow\xrightleftharpoons{10,10}{0x21cc}}
51 \CustomizeMathJax{\Newextarrow\xrightharpoonup{10,10}{0x21c0}}
52 \CustomizeMathJax{\Newextarrow\xleftharpoonup{10,10}{0x21bc}}
53 \CustomizeMathJax{\Newextarrow\xleftrightharpoons{10,10}{0x21cb}}
54
55 \CustomizeMathJax{\newcommand{\LWRdounderbrace}[3]{%
56   \mathinner{\underset{#3}{\underline{\llcorner}}\!\!\! \overline{\lrcorner}}%}
57 }%
58 \CustomizeMathJax{\newcommand{\LWRunderbrace}[2][]{\LWRdounderbrace{#2}}}
59 \CustomizeMathJax{\newcommand{\underbrace}[1][]{\LWRunderbrace{#1}}}
60 \CustomizeMathJax{\newcommand{\LWRdooverbrace}[3]{%
61   \mathinner{\overset{#3}{\overline{\ulcorner}}\!\!\! \overline{\urcorner}}%}
62 }%
63 \CustomizeMathJax{\newcommand{\LWRoverbrace}[2][]{\LWRdooverbrace{#2}}}
64 \CustomizeMathJax{\newcommand{\overbrace}[1][]{\LWRoverbrace{#1}}}
65
66 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{#1}}}
67 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{#1}}}
68
69 \CustomizeMathJax{\newenvironment{matrix*}[1][]{\begin{matrix}}{\end{matrix}}}
70 \CustomizeMathJax{\newenvironment{pmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
71 \CustomizeMathJax{\newenvironment{bmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
72 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
73 \CustomizeMathJax{\newenvironment{vmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
74 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
75 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][]{\begin{matrix}}{\end{matrix}}}
76 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
77 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
78 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
```

```
79 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
80 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
81 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
82 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
83 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
84 \CustomizeMathJax{\newenvironment{vsmallmatrix}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
85 \CustomizeMathJax{\newenvironment{Vsmallmatrix}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
86
87
88 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][]{\begin{multline*}}}
89 \CustomizeMathJax{\newenvironment{multlined}[1][]{\LWRmultlined}{\end{multline*}}}
90
91 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
92 \CustomizeMathJax{\renewcommand{\shoveleft}[1][]{\LWRorigshoveleft}}
93 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
94 \CustomizeMathJax{\renewcommand{\shoveright}[1][]{\LWRorigshoveright}}
95
96 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}}{\end{cases}}}
97 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}}{\end{cases}}}
98 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}}{\end{cases}}}
99 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}}{\end{cases}}}
100 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}}{\end{cases}}}
101 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}}{\end{cases}}}
102 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}}{\end{cases}}}
103
104 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][]{}}
105
106 \CustomizeMathJax{\% special parsing to handle '&' in argument
107     \def\LWRboxed#1{\fbox{(#1)}\fbox{(#2)}}
108     \newcommand{\boxed}[1]{\LWRboxed{#1}\&!\!}
109 }

110 \CustomizeMathJax{
111     \newcommand{\LWRABLines}[1][\Updownarrow]{#1 \notag \\}% star/nostar the same
112     \newcommand{\ArrowBetweenLines}{\ifstar\LWRABLines\LWRABLines}
113 }

114 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\}}
115
116 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}
```

```
130 % starred:  
131   \appto\LWR@customizedMathJax{\LWRbackslash()  
132   \appto\LWR@customizedMathJax{  
133     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubstar\}}%  
134   }%  
135   \appto\LWR@customizedMathJax{[2][]}%  
136   \appto\LWR@customizedMathJax{\{\{\}%  
137   \LWR@subcustomizedmathjax{\#1\left#\#2##1\right#\#3}%  
138   \appto\LWR@customizedMathJax{\}\}}%  
139   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%  
140 % not starred:  
141   \appto\LWR@customizedMathJax{\LWRbackslash()  
142   \appto\LWR@customizedMathJax{  
143     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubnstar\}}%  
144   }%  
145   \appto\LWR@customizedMathJax{[2][]}%  
146   \appto\LWR@customizedMathJax{\{\{\}%  
147   \LWR@subcustomizedmathjax{\#1\#2##1\#3}%  
148   \appto\LWR@customizedMathJax{\}\}}%  
149   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%  
150 % user macro:  
151   \appto\LWR@customizedMathJax{\LWRbackslash()  
152   \appto\LWR@customizedMathJax{  
153     \LWRbackslash{}newcommand{\LWRbackslash{}\macrotocname{\#1}\}}%  
154     \{\LWRbackslash{}ifstar%  
155       \LWRbackslash{}\macrotocname{\#1}\LWRsubstar%  
156       \LWRbackslash{}\macrotocname{\#1}\LWRsubnstar%  
157     }%  
158   }%  
159   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%  
160 }  
161 @onlypreamble\DeclarePairedDelimiter  
162  
163 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)  
164  
165 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP  
166 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{  
167   \LWR@mathtools@orig@DeclarePairedDelimiterXPP{\#1}[#2]{#3}{#4}{#5}{#6}{#7}  
168 % subsubstar, second opt arg  
169   \appto\LWR@customizedMathJax{\LWRbackslash()%  
170   \appto\LWR@customizedMathJax{  
171     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubsubstar\}}%  
172   }%  
173   \appto\LWR@customizedMathJax{[#2]}%  
174   \appto\LWR@customizedMathJax{\{\{\LWRbackslash{}left\}}%  
175   \LWR@subcustomizedmathjax{\#3\#4\#7}%  
176   \appto\LWR@customizedMathJax{\LWRbackslash{}right\}}%  
177   \LWR@subcustomizedmathjax{\#5\#6}%  
178   \appto\LWR@customizedMathJax{\}\}}%  
179   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%  
180 % substar, first opt arg  
181   \appto\LWR@customizedMathJax{\LWRbackslash()%  
182   \appto\LWR@customizedMathJax{  
183     \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubstar\}[1][]}%  
184   }%
```

```

185  \appto\LWR@customizedMathJax{%
186    \{
187      \LWRbackslash{}def\LWRbackslash{}delimsize{\#1\}
188      \LWRbackslash\macrotocname{\#1}\LWRsubsubstar
189    \}%
190  }%
191  \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
192 % subsubstar, second opt arg
193  \appto\LWR@customizedMathJax{\LWRbackslash{}}%
194  \appto\LWR@customizedMathJax{%
195    \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubsubstar\}}%
196  }%
197  \appto\LWR@customizedMathJax{[#2]}%
198  \appto\LWR@customizedMathJax{\{\{\LWRbackslash{}delimsize\}%
199  \LWR@subcustomizedmathjax{\#3\#4\#7}%
200  \appto\LWR@customizedMathJax{\LWRbackslash{}delimsize\}%
201  \LWR@subcustomizedmathjax{\#5\#6}%
202  \appto\LWR@customizedMathJax{\{\}\}}%
203  \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
204 % substar, first opt arg
205  \appto\LWR@customizedMathJax{\LWRbackslash{}}%
206  \appto\LWR@customizedMathJax{%
207    \LWRbackslash{}newcommand{\LWRbackslash\macrotocname{\#1}\LWRsubstar\}[1][]}%
208  }%
209  \appto\LWR@customizedMathJax{%
210    \{
211      \LWRbackslash{}def\LWRbackslash{}delimsize{\#1\}
212      \LWRbackslash\macrotocname{\#1}\LWRsubstar
213    \}%
214  }%
215  \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
216 % user macro:
217  \appto\LWR@customizedMathJax{\LWRbackslash{}}%
218  \appto\LWR@customizedMathJax{%
219    \LWRbackslash{}newcommand{\%
220      \LWRbackslash{}\macrotocname{\#1}\%
221    \}%
222      \{\LWRbackslash{}ifstar%
223        \LWRbackslash{}\macrotocname{\#1}\LWRsubstar%
224        \LWRbackslash{}\macrotocname{\#1}\LWRsubstar%
225      \}%
226  }%
227  \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
228 }%
229 \@onlypreamble\DeclareParedDelimiterXPP
230 \@onlypreamble\DeclareParedDelimiterX
231
232 \CustomizeMathJax{\newcommand{\lparen}{()}}
233 \CustomizeMathJax{\newcommand{\rparen}{()}}%
234 \CustomizeMathJax{\newcommand{\ordinarycolon}{::}}
235 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\text{\scriptsize{\texttt{x2236}}}}}}
236
237 \CustomizeMathJax{\newcommand{\dblcolon}{\mathrel{\text{\scriptsize{\texttt{x2237}}}}}}
238 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\text{\scriptsize{\texttt{x2236}}}\!=}}}

```

```

239 \CustomizeMathJax{\newcommand\Coloneqq{\mathrel{\!\!unicode{x2237}\!=}}}
240 \CustomizeMathJax{\newcommand\coloneq{\mathrel{\!\!unicode{x2236}\!=}}}
241 \CustomizeMathJax{\newcommand\Coloneq{\mathrel{\!\!unicode{x2237}\!=}}}
242
243 \CustomizeMathJax{\newcommand\eqqcolon{\mathrel{=\!\!unicode{x2236}}}}
244 \CustomizeMathJax{\newcommand\Eqqcolon{\mathrel{=\!\!unicode{x2237}}}}
245 \CustomizeMathJax{\newcommand\eqcolon{\mathrel{=\!\!unicode{x2236}}}}
246 \CustomizeMathJax{\newcommand\Eqcolon{\mathrel{=\!\!unicode{x2237}}}}
247
248 \CustomizeMathJax{\newcommand\colonapprox{\mathrel{\!\!unicode{x2236}\!\!\approx}}}
249 \CustomizeMathJax{\newcommand\Colonapprox{\mathrel{\!\!unicode{x2237}\!\!\approx}}}
250 \CustomizeMathJax{\newcommand\colonsim{\mathrel{\!\!unicode{x2236}\!\!\sim}}}
251 \CustomizeMathJax{\newcommand\Colonsim{\mathrel{\!\!unicode{x2237}\!\!\sim}}}
252

253 \CustomizeMathJax{\newcommand{\nuparrow}{\mathrel{\cancel{\uparrow}}}}
254 \CustomizeMathJax{\newcommand{\ndownarrow}{\mathrel{\cancel{\downarrow}}}}
255 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\Large\times}\limits}}
256
257 \CustomizeMathJax{\newcommand{\prescript}[3]{\{}^{\#1}\}_{\#2}\#3\}}
258
259
260 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
261 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
262
263 \LetLtxMacro{\LWR@mathtools@orig}{\newgathered\newgathered}
264 \renewcommand{\newgathered}[4]{%
265   \LWR@mathtools@orig{\newgathered{\#1}{\#2}{\#3}{\#4}}%
266   \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
267     \LWR@subcustomizedmathjax{%
268       \newenvironment{\#1}{\begin{gathered}}{\end{gathered}}}}%
269   }%
270   \appto{\LWR@customizedMathJax{\LWRbackslash}}{%
271 }
272 \onlypreamble{\newgathered}
273
274 \CustomizeMathJax{\newcommand{\splitfrac}[2]{\{}^{\#1}\}_{\#2}\}}
275 \CustomizeMathJax{\let\splitfrac\splitfrac}
276 \end{warpMathJax}

```

File 288 **lwarp-mattens.sty**

§ 396 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{\LWRmattensstar}[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 289 **lwarp-maybemath.sty**

§ 397 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}[1]{\#1}}}
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 290 **l warp-mcaption.sty**

§ 398 Package **mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

Pkg mcaption mcaption is ignored.

for HTML output: Discard all options for l warp-mcaption:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]
```

```
2 \newenvironment{margincap}{}{}  
3 \newcommand*{\margincapalign}{}  
4 \newlength{\margincapsep}
```

---

File 291 **l warp-mdframed.sty**

§ 399 Package **mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg mdframed mdframed is loaded with options forced to framemethod=none.

### § 399.1 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.

## § 399.2 Package loading

**for HTML output:**

```

1 \RequirePackage{xcolor}%
2 % for \convertcolorspec
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

## § 399.3 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  \nmbrrlistfalse%
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
```

## § 399.4 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 }
```

## § 399.5 Color and length HTML conversion

`\LWR@mdfprintcolor`  $\{\langle mdfcolorkey \rangle\}$

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`  $\{\langle mdflengthkey \rangle\}$

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 }
```

## § 399.6 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 \ifdefstring{\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 }
```

### § 399.7 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      \mdf@frametitle@use%
96    }%
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     \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@reserved%
126   \aftergroup\endmdf@trivlist%
127   \color@endgroup%
128   \mdf@endcode%
129 }

\mdf@footnoteoutput
130 \renewrobustcmd*\mdf@footnoteoutput{%
131   \LWR@printpendingmpfootnotes%
132 }

```

### § 399.8 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 % the following empty line is required
155
156 \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
```

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 {\@nameuse{\LWR@origmdf#1title}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%
178 {\@nameuse{\LWR@origmdf#1title}{\#2}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%
```

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 [⟨options⟩] {⟨title⟩}

```
186 \newcommand*{\LWR@mdfsubsubtitle}{%
187 \LWR@mdfsubtitlecommon{subsub}%
188 }%
189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle
```

### § 399.9 New environments

\LWR@mdthisenv Stores the environment of the frame about to be created:

```
190 \newcommand*{\LWR@mdthisenv}{mdframed}
```

\newmdenv [*options*] {*env-name*}

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 [*options*] {*environment*}

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 [*mdframed-options*] {*envname*} [*numberedlike*] {*caption*} [*within*]

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}}% l warp
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{\@thmcounter{#2}}%
238         \expandafter\xdef\csname the#2\endcsname{%
239             \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240             \@thmcounter{#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\atemptitle\relax}{\def\atemptitle{:\ \ ##1}}%
287             \begin{mdframed}[#1,frametitle={\strut#4\atemptitle}]}%
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 292 **lwarp-mdwmath.sty**

§ 400 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\!\mid}}}
7 \CustomizeMathJax{\def\dblOr{\mathbin{\mid\!\mid\!\mid\!\mid}}}
8 \CustomizeMathJax{\def\dblAnd{\mathbin{\mathrel{\bitand}\mathrel{\bitand}}}}
9 \end{warpMathJax}

```

---

File 293 **l warp-media9.sty**

§ 401 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** `\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/...`.

 & 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.

---

```

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@medianine}{flashvars}{%
35   \LWR@medianine@flashvars{#1}%
36 }
```

\includemedia [⟨options⟩] {⟨poster text⟩} {⟨file or url⟩}

```

37 \newcommand*{\LWR@includemediab}[3][]{%
38   \let\input@path\LWR@medianine@path%
```

```

39  \renewcommand*\{ \LWR@medianine@options}{#1}%
40  \renewcommand*\{ \LWR@medianine@postertext}{#2}%
41  \setkeys*\{ \LWR@medianine}{#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  \endgroup%
48 }
49
50 \newrobustcmd*\{ \includemedia}{%
51  \begingroup%
52  \LWR@linkmediacatcodes%
53  \LWR@includemediab%
54 }

```

\mediabutton [⟨options⟩] {⟨text⟩}

Ignored.

```
55 \newcommand*\{ \mediabutton}[2][]{}
```

#### File 294 **l warp-memhfixc.sty**

##### § 402 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

#### File 295 **l warp-menukeys.sty**

##### § 403 Package **menukeys**

(Emulates or patches code by TOBIAS WEH.)

Pkg menukeys menukeys is patched for use by l warp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `lateximage` 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{lateximage}*[\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{lateximage}%
16   }
17   {}
18   {\LWR@patcherror{menukeys}{\tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \renewmenumacro{\menu}[>]{menus}
20 \renewmenumacro{\directory}[/]{paths}
21 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

#### File 296 **l warp-metalogo.sty**

#### § 404 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 297 **l warp-metalogox.sty**

#### § 405 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 298 **l warp-mhchem.sty**

#### § 406 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:

$\text{\ce{C6H5-CHO}}$

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:

$\text{\ce{NaOH(aq,$\infty)}}$$	% old
$\text{\ce{NaOH(aq,\infty)}}$$	% new
$\text{\ce{Fe(CN)_{\frac{6}{2}}}}$$	% old
$\text{\ce{Fe(CN)_{\frac{6}{2}}}}$$	% new
$\text{\ce{NO_{x}}}$$	% old
$\text{\ce{NO_x}}$$	% new

$\$\\ce{NO_{-}{x}}\$$ $\$\\ce{NO_{-}x}\$$	% old % new
$\$\\ce{\\mathit{cis}\\{-} [PtCl_2(NH_3)_2]\\}}\$$ $\$\\ce{\\mathit{cis}\\{-} [PtCl_2(NH_3)_2]\\}}\$$	% old % 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\LWR@f@family%
11    SR\LWR@f@series%
12    SH\LWR@f@shape%
13    SHC\LWR@f@shapecaps%
14    CL\LWR@tempcolor%
15    FB\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 {%
36 \LWR@findcurrenttextcolor% sets \LWR@tempcolor%
37 \ifbool{\LWR@xfakebold}{%
38   {\def{\LWR@tempone{Y}}{%
39   {\def{\LWR@tempone{N}}{%
40 \begin{lateximage}*[{\textbackslash cesplit\{\LWR@HTMLsanitize{\#2}\}}]*{%
41   [%
42     FM\LWR@f@family%
43     SR\LWR@f@series%
44     SH\LWR@f@shape%
45     SHC\LWR@f@shapecaps%
46     CL\LWR@tempcolor%
47     FB\LWR@tempone% xfakebold
48   ]%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{\#1}{\#2}%
51 \end{lateximage}%
52 \endgroup%
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 299 l warp-microtype.sty****§ 407 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 m} {}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m} {}
14 \DeclareDocumentCommand{\LoadMicrotypefile}{m m} {}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m} {}
16 \DeclareDocumentCommand{\microtypsetup}{m m} {}
17 \DeclareDocumentCommand{\microtypecontext}{m 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 300 l warp-midfloat.sty****§ 408 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 301 l warp-midpage.sty

## § 409 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 302 l warp-minibox.sty

## § 410 Package **minibox**

(Emulates or patches code by WILL ROBERTSON.)

Pkg minibox minibox is patched for use by l warp.

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@stopars%
5   \group_begin:
6   \keys_set:nn {minibox} {#1}
7   \bool_if:NTF \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 303 **l warp-minitoc.sty**

§ 411 Package **minitoc**

Pkg **minitoc** **minitoc** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop[minitoc][2018/07/12]

**mtcoff** disables **minitoc**.

2 \usepackage{mtcoff}

---

File 304 **l warp-minted.sty**

§ 412 Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg **minted** **minted** is patched for use by **l warp**.

**⚠ limitations** **mathescape** 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 305 **l warp-mismath.sty**§ 413 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg **mismath** **mismath** is patched for SVG math, and emulated for MATHJAX.

⚠ **MATHJAX** `\enumber`, `\inumber`, `\jnumber`, and `\pinumber` 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}{}}
34 \CustomizeMathJax{\newcommand{\pinumber}{\left.\right.}}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}}{#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}}{#1}}}
37 \CustomizeMathJax{%
38   \newcommand{\norm}[1]{\left|\left|{#1}\right|\right.}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{}\!\mathit{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\!probastyle{P}}}}
```



```

98 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
99 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
100 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
101 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
102 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
103 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
104 \CustomizeMathJax{\newcommand{\lbar}{\overline{}}}
105 \CustomizeMathJax{\newcommand{\hbar}[1]{\overline{\vphantom{h}\#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrel{\mathop:}=}{}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace{}}}
108 \CustomizeMathJax{\newcommand{\iif}{\text{if and only if } }}

109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\rightarrow \Longrightarrow \mbox{} } }
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(\right.}#1\mathclose{\right)}}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left( #1 \right)^{\!#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left| #1 \right|}}
116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!#1\!}{\!#2\!}}}

117
118 \CustomizeMathJax{\newenvironment{system}[1][l]%
119   {\left\{ \begin{array}{@{.15em}#1@{}}}
120   \end{array}\right.}
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}
124   {\left(\begin{smallmatrix}}
125   {\end{smallmatrix}\right)}
126 }
127
128 \CustomizeMathJax{%
129   \newenvironment{mathcols}
130     {\begin{aligned}\displaystyle}
131     {\end{aligned}}}
132 }

133 \CustomizeMathJax{\newcommand{\changecl}{\end{aligned}\qquad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```
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 306 l warp-mleftright.sty****§ 414 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 307 l warp-morefloats.sty****§ 415 Package morefloats**

Pkg morefloats morefloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

---

**File 308 l warp-moreverb.sty****§ 416 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@verbatimtabinput}{\verbatimtabinput}
12
13 \renewcommand{\@verbatimtabinput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatimtabinput[#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@@listinginput}{\listinginput}
38
39 \renewcommand{\@listinginput}[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 309 **l warp-movie15.sty**

§ 417 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.

`\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{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@linkmediacat{codes}%
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{\hyperlinkmovie}[3]{}%
```

---

**File 310 l warp-mparhack.sty****§ 418 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 311 l warp-multibib.sty****§ 419 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 312 **l warp-multicap.sty**

§ 420 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 313 **l warp-multicol.sty**

§ 421 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 `multicolshading`.

The content is placed inside a <div> of class `multicol`.

Env **multicol** \* {<numcols>} [<heading>]  
2 \NewDocumentEnvironment{multicol}{s m o}  
HTML <div> class to contain everything:  
3 {  
4 \LWR@forcenewpage  
5 \BlockClass{multicol}

Optional HTML <div> class for the heading:

6 \IfValueT{#3}{\begin{BlockClass}{multicolshading}#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 314 **l warp-multicolrule.sty**

### § 422 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 315 **l warp-multimedia.sty**

### § 423 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.

`\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{multimedia}[2012/05/02]
2 \LWR@origRequirePackage{lwarf-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlink{movie}}[3][]{}
```

---

File 316 **lwarf-multiobjective.sty**

§ 424    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}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}

7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!\!\!\prec\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\not\prec\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot\epsilon}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon+\epsilon}}}
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{\mathrm{arg}}\nolimits,\max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\mathrm{arg}}\nolimits,\min}}
29 }%
30 \end{warpMathJax}
```

### File 317 l warp-multirow.sty

## § 425 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`.

### vposn

- 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.

### with `\multicolumn`

⚠ `\multicolumn` & `\multirow`

- See section 425.2 for `\multicolumnrow`.

`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 `lateximage`, the print versions are restored.

See section 75.25 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}{}%
```

## § 425.1 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@htmlltag{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@tablecolspe}{\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 \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:middle}}{}%
20 \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@mbox{vertical-align:bottom}}{}%
21 \ifstrequal{#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@getexpparray{\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}

```

## § 425.2 Combined multicolumn and multirow

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:align \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}[]{}}
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 318 **l warp-multitoc.sty**

#### § 426 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}{}  

```

### File 319 **l warp-musicography.sty**

#### § 427 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 }
```

```
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@meter0}{}{ {\HTMLUnicode{25EF}} }
76
77 \LWR@formatted{meter0}
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 320 **l warp-nameauth.sty**

§ 428 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]

**l warp** 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}}% lwarp
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 321 **l warp-nameref.sty**

§ 429 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 322 **l warp-natbib.sty**

§ 430 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 323 **lwarp-nccfancyhdr.sty**

#### § 431 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]{\rule{#1}{\headrulewidth}}
7 \newcommand*\footrule[1]{\rule{#1}{\footrulewidth}}
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders{0pt}
11 \newcommand*\normalheaders{0pt}
12
13 \newcommand*\fancyhead[2][]{\def\lhead{#1}\def\rhead{#2}}
14 \newcommand*\fancyfoot[2][]{\def\lfoot{#1}\def\rfoot{#2}}
15 \newcommand*\fancyhf[2][]{\def\lhead{#1}\def\rhead{#2}}
16 \newcommand*\fancypagestyle[2][]{\def\lhead{#1}\def\rhead{#2}}
17 \newcommand*\lhead[2][]{\def\lhead{#1}\def\rhead{#2}}
18 \newcommand*\chead[2][]{\def\lhead{#1}\def\rhead{#2}}
19 \newcommand*\rhead[2][]{\def\lhead{#1}\def\rhead{#2}}
20 \newcommand*\lfoot[2][]{\def\lhead{#1}\def\rhead{#2}}
```

---

```

21 \newcommand{\cfoot}[2][]{}
22 \newcommand{\rfoot}[2][]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o 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 324 **l warp-nccfoots.sty**

§ 432 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 325 **l warp-nccmath.sty**

§ 433 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
11     \LWR@eqnarrayfactor
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{\LWR@nccmath@eqsstar}{\LWR@nccmath@eqs}
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][]{{\begin{eqnarray*}#2\end{eqnarray*}}}
31 \newcommand*{\LWR@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{}}}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}{#1}{#2}}{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[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]{\[\#1\]}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar{\LWRnrnstar}{\LWRnrnstar}}}
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 326 l warp-needspace.sty****§ 434 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 327 l warp-newpxmath.sty****§ 435 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}{}{up}
14 \LWR@mathjax@addgreek@l@up{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 328 **l warp-newtxmath.sty**

## § 436 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 }
```

```
29 }{}
```

Optional slanted Greek:

```
30 \iftx@slantedG
31     \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```

---

### File 329 **l warp-newtxsf.sty**

§ 437      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 330 **l warp-nextpage.sty**

#### § 438 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 331 **l warp-nfssext-cfr.sty**

#### § 439 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 332 **l warp-nicefrac.sty**

## § 440 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 333 **lwarf-niceframe.sty**

## § 441 Package niceframe

Pkg niceframe niceframe is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{niceframe}\% the original date is in yyyy/dd/mm format

```
\newcommand{\LWR@niceframe}{\fbox{}}
```

---

```

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 334 **l warp-nicematrix.sty**

## § 442 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\hdashline}
83
84 \CustomizeMathJax{\newcommand{\ldots}[1][]{\dots}}
85 \CustomizeMathJax{\newcommand{\cdots}[1][]{\cdots}}
86 \CustomizeMathJax{\newcommand{\vdots}[1][]{\vdots}}
87 \CustomizeMathJax{\newcommand{\ddots}[1][]{\ddots}}
88 \CustomizeMathJax{\newcommand{\iddots}[1][]{\mathinner{\text{\scriptsize\texttt{\&#x22F0}}}}}
89
90 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
91 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate AutoNiceMatrix in MATHJAX.

```

92 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
93 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
94 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
95 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
98 \end{warpMathJax}

```

---

File 335 **lwarp-noitcrl.sty**

§ 443 Package **noitcrl**

(Emulates or patches code by PAUL EBERMANN.)

Pkg noitcrul noitcrul is used as-is for SVG and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{noitcrul}[2006/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}!}}
4 \end{warpMathJax}
```

---

File 336 **l warp-nolbreaks.sty**

§ 444 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 337 **l warp-nomencl.sty**

§ 445 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:**

\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\@nom@verb\@tempa @[\{\@nom@verb\@tempa\}]%
6       \begingroup\@nom@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 338 **l warp-nonfloat.sty**

§ 446 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 339 **l warp-nonumonpart.sty**

§ 447 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

File 340 **l warp-nopageno.sty**

§ 448 Package **nopageno**

Pkg nopageno nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

File 341 **l warp-notes.sty**

§ 449 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}{%
```

---

```

5      \BlockClass{notes#1}
6      \begin{BlockClass}{notesicon}\textcircled{\~#2~}\end{BlockClass}
7      \BlockClass{notescontents}
8  }
9  {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}

```

---

File 342 **l warp-notespages.sty**

§ 450 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*\notestitletext(){}
7 \newcommand*\notesareatext(){}
8 \newcommand*\npninfo[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 343 **l warp-nowidow.sty**

§ 451 Package **nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

Pkg nowidow nowidow is ignored.

**for HTML output:** Discardable option for 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 344 **lwarf-ntheorem.sty**

## § 452 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg **ntheorem** **ntheorem** is patched for use by **lwarf**.

Table 19: 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.

---

### § 452.1 **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. **lwarf** does not share this bug, so equations with `\split`, etc, are numbered correctly with **lwarf**'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of **ntheorem**'s `thref` option.

### § 452.2 **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 **lwarf** 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]
```

### § 452.3 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   \iftfm@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   \iftfm@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 }

```

#### § 452.4 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 }

```

### § 452.5 \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 }
```

### § 452.6 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}

```

## § 452.7 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

```

## § 452.8 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

```

## § 452.9 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
```

## § 452.10 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     \fi%
458 }{}%
459 \LWR@origendtheorem% also does \endtrivlist
460 \ifbool{\LWR@ntheoremarks}{\global\setendmarktrue}{}%
461     \LWR@printpendingfootnotes%
462 \endBlockClass%
463 }
```

### § 452.11 \NoEndMark

```
464 \gdef\NoEndMark{\global\setendmarkfalse}
```

### § 452.12 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 }
```

### § 452.13 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
```

#### § 452.14 Cross-referencing

```
\thref {\langle label \rangle}

500 \newcommand*{\thref}[1]{\cref{#1}}%
```

---

File 345 **l warp-octave.sty**

#### § 453 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 }
```

```
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 346 **lwarp-orcidlink.sty**

§ 454 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

Pkg orcidlink orcidlink is patched for use by l warp.

```
22 }
23
24 \begin{warpMathJax}
25 \CustomizeMathJax{\newcommand{\orcidlink}[1]{}}
26 \end{warpMathJax}
```

---

**File 347 l warp-overpic.sty****§ 455 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 348 l warp-pagegrid.sty****§ 456 Package pagegrid**

Pkg pagegrid pagegrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

```
2 \newcommand*{\pagegridsetup}[1]{}
```

---

**File 349 l warp-pagenote.sty****§ 457 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{\mathit{#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 350 l warp-pagesel.sty****§ 458 Package pagesel**

Pkg pagesel pagesel is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

---

**File 351 l warp-paralist.sty****§ 459 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\textbf{#1}}}
```

## File 352 l warp-parallel.sty

## § 460 Package parallel

*(Emulates or patches code by MATTHIAS ECKERMAN.)*

Pkg parallel parallel is emulated.

Package options are ignored. Footnotes are treated as normal `\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 `lwarp-parallel`:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{\LWR@parallel@Lwidth}
3 \newcounter{\LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}{}
5
6 \newenvironment*{Parallel}[3][]{%
7     {%
8         \LWR@printpendingfootnotes%
9         \setlength{\linewidth}{\LWR@userstextwidth}%
10        \setlength{\textwidth}{\LWR@userstextwidth}%
11        \renewcommand*{\LWR@parallel@border}{}%
12        \ifstrequal{\#1}{v}%
13            {%
14                \renewcommand*{\LWR@parallel@border}{; border-left: 2px solid black}%
15            }%
16        }%
17    }%
```

```
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          }% {x}{x}%
44          \setcounter{LWR@parallel@Lwidth}{%
45              90 * \ratio{#2}{\linewidth}%
46          }%
47          \setcounter{LWR@parallel@Rwidth}{%
48              90 * \ratio{#3}{\linewidth}%
49          }%
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 353 **l warp-parcolumns.sty**

§ 461 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 \ifbool{LWR@parcolumns@started}{%
79   {%
80     \LWR@htmldivclassend{div}%
81     \boolfalse{LWR@parcolumns@started}%
82   }%
83   {}%
84   \setcounter{LWR@parcolumns@thiscol}{1}%
85 }
```

---

**File 354 l warp-parnotes.sty****§ 462 Package parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

Pkg parnotes parnotes is supported with some patches.

for HTML output: 1 \LWR@ProvidesPackagePass{parnotes}[2016/08/15]

```
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%          l warp
16    \parnotemark{#1}\nolinebreak\thinspace#2%
17  }%
18}%
19}%
20\def\PN@parnotes@real{%
21  % We call \par later, so this avoids recursion with \PN@parnotes@auto
22  \PN@inparnotestru
23  \unless\ifvmode\par\fi
24  % Avoid page breaks between a paragraph and its parnotes
25  \nopagebreak\addvspace{\parnotevskip}%
26  \LWR@forcenewpage%                  l warp
27  \begin{BlockClass}(note){footnotes}%    l warp
28  {\parnotefmt{\PN@text}\par}%
29  \end{BlockClass}%                   l warp
30  \global\def\PN@text{}%
31  \addvspace{\parnotevskip}%
32  %
33  % These can be enabled or disabled by package options
34  %
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 355 **l warp-parskip.sty**

#### § 463 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 356 **l warp-pbalance.sty**

#### § 464 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 357 l warp-pbox.sty**

§ 465 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 358 l warp-pdfcol.sty**

§ 466 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 359 **l warp-pdfcolfoot.sty**

§ 467 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 360 **l warp-pdfcolmk.sty**

§ 468 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

---

File 361 **l warp-pdfcolparallel.sty**

§ 469 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 362 **l warp-pdfcolparcolumns.sty**

#### § 470 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 363 **l warp-pdfcomment.sty**

#### § 471 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 364 **lwarf-pdfcrypt.sty**

##### § 472 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}
```

---

#### File 365 **lwarf-pdflscape.sty**

##### § 473 Package **pdflscape**

Pkg pdflscape pdflscape is ignored.

for HTML output: Discard all options for lwarf-pdflscape:

```
1 \LWR@ProvidesPackageDrop{pdflscape}[2019/12/05]
2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}
```

---

#### File 366 **lwarf-pdfmarginpar.sty**

##### § 474 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 367 l warp-pdfpages.sty****§ 475 Package pdfpages**

(Emulates or patches code by ANDREAS MATTHIAS.)

Pkg pdfpages pdfpages is patched for use by l warp.

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}{linktodoctf}(){}
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 368 l warp-pdfprivacy.sty

#### § 476 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

### File 369 l warp-pdfrender.sty

#### § 477 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 370 l warp-pdfsync.sty****§ 478 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}{}  
5 
```

---

**File 371 l warp-pdftricks.sty****§ 479 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 372 l warp-pdfx.sty****§ 480 Package pdfx**

Pkg pdfx pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

**File 373 l warp-perpage.sty****§ 481 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         \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8         \expandafter\xdef\csname theabs#1\endcsname{%
9             \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 374 **lwarf-pfnote.sty**

§ 482 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 375 **lwarf-phfqit.sty**

§ 483 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 376 **lwarp-physics.sty**

#### § 484 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 377 **lwarp-physunits.sty**

#### § 485 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}\text{, 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/h}}}
59 \CustomizeMathJax{\newcommand{\mps}{\mathsf{mps}}}
60 \CustomizeMathJax{\newcommand{\miph}{\mathsf{miph}}}
61 \CustomizeMathJax{\newcommand{\kts}{\mathsf{kts}}}
62
63 \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 378 **lwarf-picinpar.sty**

#### § 486 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 379 **l warp-pifont.sty**

§ 487 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 380 **l warp-pinlabel.sty**

§ 488 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 381 l warp-placeins.sty****§ 489 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 382 l warp-plarydshln.sty****§ 490 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 383 l warp-plex.sty****§ 491 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\state\relax  
5  
6 \DeclareExpandableDocumentCommand{\rensushi}{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 l warp core.

---

File 384 **l warp-plectarydshln.sty**

§ 492 Package **plectarydshln**

Pkg plectarydshln plectarydshln is emulated by l warp-arydshln.

**for HTML output:**

- 1 \LWR@ProvidesPackageDrop{plectarydshln}[2018/10/20]
- 2 \LWR@origRequirePackage{l warp-arydshln}

---

File 385 **l warp-plextcolortbl.sty**

§ 493 Package **plextcolortbl**

Pkg plectcolortbl plectcolortbl is emulated by l warp-colortbl.

**for HTML output:**

- 1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
- 2 \LWR@origRequirePackage{l warp-colortbl}

---

**File 386 l warp-plimsoll.sty****§ 494 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 387 l warp-prelim2e.sty****§ 495 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 388 l warp-prettyref.sty****§ 496 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 389 **l warp-preview.sty**

§ 497 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 390 **l warp-psfrag.sty**

§ 498 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 391 l warp-psfragx.sty**

§ 499      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 392 l warp-pst-eps.sty**

§ 500      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 393 l warp-pstool.sty**

§ 501      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   }%
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   }%
14 }
```

---

File 394 **l warp-pstricks.sty**

§ 502 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 395 l warp-pxatbegshi.sty****§ 503 Package pxatbegshi**

Pkg pxatbegshi pxatbegshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

```
2 \LWR@origRequirePackage{l warp-atbegshi}
```

---

**File 396 l warp-pxeveryshi.sty****§ 504 Package pxeveryshi**

Pkg pxeveryshi pxeveryshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

```
2 \LWR@origRequirePackage{l warp-everyshi}
```

---

**File 397 l warp-pxfonts.sty****§ 505 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 398 **l warp-pxftnright.sty**

§ 506 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]  
2 \LWR@origRequirePackage{l warp-ftnright}

---

File 399 **l warp-pxjahyper.sty**

§ 507 Package **pxjahyper**

Pkg pjaxahyper pjaxahyper is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 400 **l warp-quotchap.sty**

§ 508 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 401 **l warp-quoting.sty**

### § 509 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 402 l warp-ragged2e.sty****§ 510 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 403 l warp-realscripts.sty****§ 511 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 {\textsuperscript{#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     \textsuperscript{#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 404 l warp-refcheck.sty****§ 512 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 405 l warp-register.sty****§ 513 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 406 **l warp-relsize.sty**

§ 514 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 407 **lwarf-repeatindex.sty**

## § 515 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 408 **l warp-repltext.sty**

§ 516 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 409 **l warp-resizegather.sty**

§ 517 Package **resizegather**

Pkg `resizegather` `resizegather` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]  
2 \newcommand\*\resizegathersetup[1]{}

---

#### File 410 **l warp-returntogrid.sty**

### § 518 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 411 **l warp-rlepsf.sty**

### § 519 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 412 **l warp-rmathbr.sty**

### § 520 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 413 l warp-rmpage.sty****§ 521 Package rmpage**

Pkg rmpage rmpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

**File 414 l warp-romanbar.sty****§ 522 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 415 l warp-romanbarpagenumber.sty****§ 523 Package romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

**File 416 l warp-rotating.sty****§ 524 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 417 l warp-rotfloat.sty

### § 525 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 418 **l warp-rviewport.sty**

### § 526 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 419 **l warp-savetrees.sty**

### § 527 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 420 l warp-scalefnt.sty**

§ 528      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 421 l warp-scalerel.sty**

§ 529      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 422 l warp-schemata.sty**

§ 530 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 423 l warp-scrextend.sty**

§ 531 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 \DeclareDocumentCommand{\@maketitle}{}{  
24     \ifdefvoid{\@titlehead}{}{  
25         \begin{BlockClass}{titlehead}  
26             \@titlehead%  
27         \end{BlockClass}%  
28     }%  
29     \ifdefvoid{\@subject}{}{  
30         \begin{BlockClass}{subject}  
31             \@subject%  
32         \end{BlockClass}%  
33     }%  
34     \LWR@stoppars%  
35     \LWR@htmltag{\LWR@tagtitle}%  
36     \@title%  
37     \LWR@htmltag{\LWR@tagtitleend}%  
38     \ifdefvoid{\@subtitle}{}{  
39         \begin{BlockClass}{subtitle}  
40             \@subtitle%  
41         \end{BlockClass}%  
42     }%  
43     \LWR@startpars%  
44     \begin{BlockClass}{author}%  
  
45     \renewcommand*{\cr}{}%  
46     \renewcommand*{\crcr}{}%  
47     \renewcommand*{\noalign}{}%  
  
48     \renewcommand{\and}{  
49         \end{BlockClass}%  
50         \begin{BlockClass}{oneauthor}%  
51     }%  
52     \begin{BlockClass}{oneauthor}%  
53         \@author%  
54     \end{BlockClass}%  
55     \end{BlockClass}%  
56     \begin{BlockClass}{titledate}%  
57     \@date%  
58     \end{BlockClass}%  
59     \ifdefvoid{\@published}{}{  
60         \begin{BlockClass}{published}%
```

```
61      \@published%
62      \end{BlockClass}%
63  }%
64 }
65
66 \AddSubtitlePublished
67
68 \DeclareDocumentCommand{\extratitle}{m}{}
69 \DeclareDocumentCommand{\frontispiece}{m}{}
70
71 \def\@titlehead{}%
72 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{\#1}}%
73
74 \def\@subject{}%
75 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{\#1}}%
76
77% \subtitle and \published are defined by \AddSubtitlePublished
78
79 \DeclareDocumentCommand{\publishers}{m}{\published{\#1}}
80
81 \DeclareDocumentCommand{\uppertitleback}{m}{}
82 \DeclareDocumentCommand{\lowertitleback}{m}{}
83 \DeclareDocumentCommand{\dedication}{m}{}
84
85 \DeclareDocumentCommand{\ifthispageodd}{m m}{\#1}
86
87 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
88 \DeclareDocumentCommand{\cleardoubleemptypage}{}{%
89 \DeclareDocumentCommand{\cleardoubleplainpage}{}{%
90 \DeclareDocumentCommand{\cleardoublestandardpage}{}{%
91 \DeclareDocumentCommand{\cleardoubleoddpage}{}{%
92 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{}
93 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{%
94 \DeclareDocumentCommand{\cleardoubleoddplainpage}{}{%
95 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{%
96 \DeclareDocumentCommand{\cleardoubleevenpage}{}{%
97 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
98 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{%
99 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{%
100 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{%
101
102 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
103   \begingroup\let\thefootnotemark\multfootsep\makefnmark\endgroup
104 }
105
106 \DeclareDocumentCommand{\multfootsep}{}{,}
107
108 \DeclareDocumentCommand{\footref}{m}{%
109   \begingroup
110     \unrestored@protected@xdef\@thefnmark{\ref{\#1}}%
111   \endgroup
112   \footnotemark
113 }
114
115 \DeclareDocumentCommand{\deffootnote}{o m m}{}
```

```
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}  
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}  
118 \DeclareDocumentCommand{\raggedfootnote}{}{}  
  
119 \DeclareDocumentCommand{\dictum}{o m}{  
120 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{dictum}  
121     #2  
122     \IfValueT{#1}{  
123     {  
124         \LWR@stoppars%  
125         \ifbool{FormatWP}{  
126             {\begin{BlockClass}[\LWR@print@mbox{border-top: 1px solid gray}{dictumauthor}]  
127                 {\begin{BlockClass}{dictumauthor}}  
128                     \dictumauthorformat{#1}  
129                 \end{BlockClass}  
130             }  
131         \end{LWR@BlockClassWP}  
132     }  
133 }  
134 \DeclareDocumentCommand{\dictumwidth}{}{}  
135 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}  
136 \DeclareDocumentCommand{\dictumrule}{}{}  
137 \DeclareDocumentCommand{\raggeddictum}{}{}  
138 \DeclareDocumentCommand{\raggeddictumtext}{}{}  
139 \DeclareDocumentCommand{\raggeddictumauthor}{}{}  
140  
141 \DeclareDocumentEnvironment{labeling}{o m}  
142 {  
143 \def\sc@septext{#1}%  
144 \list{}{}%  
145 \let\makelabel\labelinglabel%  
146 }  
147 {  
148 \endlist  
149 }  
150  
151 \DeclareDocumentCommand{\labelinglabel}{m}{%  
152 #1 \qquad \sc@septext%  
153 }  
154  
155 \let\addmargin\relax  
156 \let\endaddmargin\relax  
157 \cslet{addmargin*}{\relax}  
158 \cslet{endaddmargin*}{\relax}  
  
159 \NewDocumentEnvironment{addmargin}{s O{} m}  
160 {  
161 \LWR@stoppars%  
162 \setlength{\LWR@templengthtwo}{#3}  
163 \ifblank{#2}{  
164 {  
165     \begin{BlockClass}[  
166         \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;  
167         \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}} ;  
168     ]  
169 }
```

```

168     ]{addmargin}
169 }
170 {
171     \setlength{\LWR@tempLengthOne}{#2}
172     \begin{BlockClass}[
173         \LWR@print@mbox{margin-left:\LWR@printLength{\LWR@tempLengthOne}} ;
174         \LWR@print@mbox{margin-right:\LWR@printLength{\LWR@tempLengthTwo}}
175     ]{addmargin}
176 }
177 }
178 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

179
180 \ExplSyntaxOn
181 \cs_new:cpx {addmargin*} {\addmargin*}
182 \cs_new_eq:cN {endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

#### File 424 **l warp-scrhack.sty**

#### § 532 Package **scrhack**

Pkg scrhack scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

#### File 425 **l warp-scrlayer.sty**

#### § 533 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 426 **l warp-scrlayer-notecolumn.sty**

§ 534 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 427 **l warp-scrlayer-scrpage.sty**

§ 535 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{\cefoot}{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{\ofoot}{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}{}  
39 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m}{}  
40 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m}{}  
41 \newcommand*{\defpagestyle}[3]{}  
42 \newcommand*{\newpagestyle}[3]{}  
43 \newcommand*{\providepagestyle}[3]{}  
44 \newcommand*{\renewpagestyle}[3]{}

---


```

---

File 428 **lwarf-scrpage2.sty**

§ 536      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{\cefoot}{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}{}  
42
```

---

File 429 **lwarf-section.sty**

§ 537 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\fpind\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   \newskip\secpstskp
28   \newdimen\subindent
29   \newskip\subpreskp
30   \newskip\subpstskp
31   \newskip\parpstskp
32   \newcount\c@hddepth
33 \fi
```

---

File 430 **lwarp-sectionbreak.sty**

§ 538      Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg sectionbreak **sectionbreak** is patched for use by **lwarp**.

**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 431 l warp-sectsty.sty****§ 539 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*\chapternumberfont [1] {}
7 \newcommand*\chaptertitlefont [1] {}
8 \newcommand*\sectionfont [1] {}
9 \newcommand*\subsectionfont [1] {}
10 \newcommand*\subsubsectionfont [1] {}
11 \newcommand*\paragraphfont [1] {}
12 \newcommand*\ subparagraphfont [1] {}
13 \newcommand*\minisectionfont [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 432 l warp-selectp.sty****§ 540 Package selectp**

Pkg selectp selectp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp}% no date given

```
2 \newcommand*\outputonly[1] {}
```

---

File 433 **l warp-semantic-markup.sty**

§ 541 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup semantic-markup is patched for use by l warp.

⚠ 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\sh\musSharp
12 \let\na\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}\% addl' hashing
19     {\% contents
20      \LWR@origensuredmath{%
21          \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}}\%
22      }\%
23     }\%
24 }
```

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 434 **l warp-seqsplit.sty**

§ 542 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}
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 435 **l warp-setspace.sty**

§ 543 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*{\singespacing} {}
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 436 l warp-shadethm.sty**

§ 544      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@formattedeenv\shadebox}
```

---

**File 437 l warp-shadow.sty**

§ 545      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 438 l warp-shapepar.sty**

§ 546      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 `\teximage`, 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 439 **l warp-showidx.sty**

##### § 547 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 440 **l warp-showkeys.sty**

##### § 548 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 441 **l warp-showtags.sty**

##### § 549 Package **showtags**

Pkg showtags **showtags** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{showtags}% no version is given
```

```
2 \newcommand{\thecitetag}{1}{}{}
```

File 442 **lwarp-shuffle.sty**

## § 550 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,.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*{\shuffle}{%
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{\&}}}{}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32   \mathbin{\text{\LWRoverlaysymbols{\raise{.6ex}{-}}{\text{\scriptsize\texttt{\&}}}}}{}}
33 }
34 \end{warpMathJax}

```

---

**File 443 l warp-sidecap.sty**

§ 551      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 444 l warp-sidenotes.sty**

§ 552      Package **sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEAUM.)

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>}
1 \RenewDocumentCommand \sidecaption {s o o m}
2 {
3   \LWR@stoppars
4   \begingroup
5   \captionsetup{style=sidecaption}%
6   \IfBooleanTF{#1}%
7   { % starred
8     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
9     \caption*{#4}%
10    \end{BlockClass}
11  }
12  { % unstarred
13    \IfNoValueOrEmptyTF{#2}%
14    {\def\@sidenotes@sidecaption@tof{#4}}
15    {\def\@sidenotes@sidecaption@tof{#2}}
16    \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
17    \caption[\@sidenotes@sidecaption@tof]{#4}
18    \end{BlockClass}
19  }
20  \endgroup
21  \LWR@startpars
22 }
23 }
```

Borrowed from the l warp version of keyfloat:

```
24 \NewDocumentEnvironment{KFLTsidenotes@marginfloat}{O{-1.2ex} m}
25 {%
26   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
27   \renewcommand*\@capttype{#2}%
28 }
29 {%
30   \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
34  {\begin{KFLTsidenotes@marginfloat}{figure}}
35  {\end{KFLTsidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{margintable}{o}
38  {\begin{KFLTsidenotes@marginfloat}{table}}
39  {\end{KFLTsidenotes@marginfloat}}
```

The following were changed by sidenotes, and now are reset back to their l warp-supported originals:

Restoring the definition from the L<sup>A</sup>T<sub>E</sub>X2<sub>E</sub> article.cls source:

```

40 \renewenvironment{figure*}
41         {@dblfloat{figure}}
42         {\end@dblfloat}
43
44 \renewenvironment{table*}
45         {@dblfloat{table}}
46         {\end@dblfloat}

```

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@syncnotenumber{\LWR@sidenote}{\thesidenote}}
50 \appto{\LWR@syncnotenames}{\LWR@syncnotename{\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 445 lwarp-simplebnf.sty

§ 553 Package **simplebnf**

(Emulates or patches code by JAY LEE.)

Pkg simplebnf simplebnf is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{simplebnf}[2020/09/01]

The entire object is placed inside a `lateximage` 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{lateximage}[\#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{ lateximage}%
47      l warp
48  }
49  { }
50
51 \ExplSyntaxOff

```

---

File 446 **l warp-SIunits.sty**

§ 554      Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

Pkg SIunits 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 `lateximage`, 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$*% lwarp
5     {%
6       \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
7       \{ \LWR@HTMLsanitize{\#2}\}% extra space
8     }%
9     {SIunits}% add'l hashing
10    {%
11      \#1\,\,\#\#2%
12    }% contents
13  }
14 }% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16   @inunitcommandtrue% original
17   \LWR@subsingle$*% lwarp
18   {%
19     \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
20     \{ \LWR@HTMLsanitize{\#2}\}% extra space
21   }%
22   {SIunits}% add'l hashing
23   {%
24     \LWR@origensuredmath% lwarp modification
25     \SIfstyle{%
26       \#1\@\qsk\period@active{\#2}%
27     }% original
28   }%
29   {%
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}{\power{10}{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
99 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
100 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
101 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
102 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
103 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
104 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
105 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
106 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
107 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
108 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
109 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kilo}\mathrm{gram}}}
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{\degrecelsius}{\mathrm{\text{\scriptsize{e}}}\mathit{c}\mathit{e}\mathit{l}\mathit{s}\mathit{i}\mathit{u}\mathit{s}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\degrecelsius}}
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     {\metre\usk\reciprocal\metre}}}
143   \CustomizeMathJax{\newcommand{\steradianbase}{%
144     {\squaremetre\usk\rpsquare\metre}}}
145   \CustomizeMathJax{\newcommand{\hertzbase}{%
146     {\reciprocal\second}}}
147   \CustomizeMathJax{\newcommand{\newtonbase}{%
148     {\metre\usk\kilogram\usk\second\rpsquared}}}
149   \CustomizeMathJax{\newcommand{\pascalbase}{%
150     {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}}
151 \CustomizeMathJax{\newcommand{\joulebase}{%
```

```
152      {\squaremetre\usk\kilogram\usk\second\rpsquared}%
153 \CustomizeMathJax{\newcommand{\wattbase}%
154     {\squaremetre\usk\kilogram\usk\rpcubic\second}%
155 \CustomizeMathJax{\newcommand{\coulombbase}%
156     {\ampere\usk\second}%
157 \CustomizeMathJax{\newcommand{\voltbase}%
158     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}%
159 \CustomizeMathJax{\newcommand{\faradbase}%
160     {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}%
161 \CustomizeMathJax{\newcommand{\ohmbase}%
162     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}%
163 \CustomizeMathJax{\newcommand{\siemensbase}%
164     {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}%
165 \CustomizeMathJax{\newcommand{\weberbase}%
166     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}%
167 \CustomizeMathJax{\newcommand{\teslabase}%
168     {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}%
169 \CustomizeMathJax{\newcommand{\henrybase}%
170     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}%
171 \CustomizeMathJax{\newcommand{\celsiusbase}%
172     {\kelvin}}%
173 \CustomizeMathJax{\newcommand{\lumenbase}%
174     {\candela\usk\squaremetre\usk\rpsquare\metre}%
175 \CustomizeMathJax{\newcommand{\luxbase}%
176     {\candela\usk\squaremetre\usk\rpfourth\metre}%
177 \CustomizeMathJax{\newcommand{\becquerelbase}%
178     {\hertzbase}%
179 \CustomizeMathJax{\newcommand{\graybase}%
180     {\squaremetre\usk\second\rpsquared}%
181 \CustomizeMathJax{\newcommand{\sievertbase}%
182     {\graybase}%
183 \CustomizeMathJax{\newcommand{\katalbase}%
184     {\rp\second\usk\mole }}%
185 }{}%
186
187 \ifdef{\derradian}%
188 \CustomizeMathJax{\newcommand{\derradian}%
189     {\metre\usk\reciprocal\metre}%
190 \CustomizeMathJax{\newcommand{\dersteradian}%
191     {\squaremetre\usk\rpsquare\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{\dday}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\paminute}{^\prime}}
239 \CustomizeMathJax{\newcommand{\arcminute}{^{\prime\prime}}}
240 \CustomizeMathJax{\newcommand{\asecond}{^{\prime\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\asecond}{^{\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\are}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
```

```
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\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}{\radian\per\second}}
284 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
285 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
286 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
287   \squaremetre\usk\rpcubic\metre%
288 }%
289 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
290 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
291 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
292 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
293 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
294 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
295 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
296 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
297 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
298   \squaremetre\per\newton\usk\second%
299 }%
300 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
301   \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
302 }%
303 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
304 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
305 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\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{\coulombpersquaremetrenp}{\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{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
```

```
317 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
318 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
319 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
320 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\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{\squaremetrepersecondnp}{%
334     \squaremetre\per\second\squared%
335 }}
336 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
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{\candelapersquaremetrenp}{\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{\kilogrammetrepersecond}{%
376     \kilogram\usk\metre\per\second\squared%
377 }}
378 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
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}{1\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{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
398 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
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}{\text{\textnormal{C}}{\scriptstyle{\circ}}{}}{%
412     \Celsius{}}{\text{\textnormal{C}}{\scriptstyle{\circ}}{}}{}}{%
413     \Celsius{}}{\text{\textnormal{C}}{\scriptstyle{\circ}}{}}{}}{%
414     \Celsius{}}{\text{\textnormal{C}}{\scriptstyle{\circ}}{}}{}}{%
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 447 **lwarp-siunitx.sty**

§ 555 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}%
17 % \LWR@ProvidesPackagePass{siunitx}[2021-05-21]
18 %
19 \RequirePackage{siunitx-v2}

```

---

File 448 **l warp-siunitx-v2.sty**

§ 556 Package **siunitx-v2**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg siunitx-v2 siunitx-v2 is patched for use by l warp, 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 columns are rendered as simple c columns, and tabular s columns are not supported. 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:** 1 \RequirePackage{xcolor}% for \convertcolorspec

2

3 \LWR@ProvidesPackagePass{siunitx-v2}[2021-04-17]

```

4 \AtBeginDocument{%
5   \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6   \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7   \DeclareSIUnit\elementarycharge{\textit{e}}
8   \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9   \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10  \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument

```

\@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.

```

12
13 \ExplSyntaxOn
14 %

```

Modified to set set HTML \textcolor if not black:

```

15 \cs_set_protected:Npn \__siunitx_print_aux:
16 {
17   \text
18   {
19     \__siunitx_ensure_ltr:n
20     {

```

\color@endgroup was adding a paragraph break, so use a regular group instead.

```

21 %           \color@begingroup
22           \begingroup% lwarp
23 %
24           \__siunitx_print_color:
25           \__siunitx_font_shape:
26           \__siunitx_font_weight:
27           \use:c
28           {
29             \__siunitx_ \l__siunitx_print_type_tl _ 
30             text \l__siunitx_font_family_tl :
31           }

32 %           \bool_if:NTF \l__siunitx_font_math_mode_bool
33 %           {
34 %             \__siunitx_print_math:
35 %           }
36           {
37             \LWR@findcurrenttextcolor% lwarp
38             \ifdefstring{\LWR@tempcolor}{000000}%
39               {\__siunitx_print_text:}% lwarp
40               {% lwarp
41                 \LWR@textcurrentcolor% lwarp
42                 \__siunitx_print_text:
43               }% lwarp
44           }% lwarp
45         }

```

```

46 %           \color@endgroup
47         \endgroup% lwarp
48 %
49     }
50   }
51 }
52
53 \cs_set_protected:Npn \__siunitx_set_math_fam:n #1 {
54   \group_begin:
55     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
56     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
57     \hbox_set:Nn \l__siunitx_tmp_box
58     {
59       \ensuremath
60       {
61         \use:c { math #1 }
62         {
63           \int_const:cn { c__siunitx_math #1 _int } { \fam }
64         }
65       }
66     }
67   \group_end:
68 }
69
70 \cs_set_protected:Npn \__siunitx_combined_output:n #1 {
71 %
72   \group_begin:% lwarp
73     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
74     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
75     \bool_if:NTF \l__siunitx_number_parse_bool
76     {
77       \tl_clear:N \l__siunitx_number_out_tl
78       \bool_set_false:N \l__siunitx_number_compound_bool
79       \__siunitx_number_output_parse:n {#1}
80     }
81   {

```

For parse-numbers=false:

```

82   \__siunitx_unit_output_pre_print:
83   \begingroup% lwarp
84     \boolfalse{mathjax}% lwarp
85 %   \__siunitx_print:nn { number } { \ensuremath {#1} }
86     \LWR@subsingle dollar% lwarp
87     \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)% lwarp
88     \{siunitx\}{%
89       \__siunitx_print:nn { number } {%
90         \LWR@origensuredmath{#1}%
91         }%
92       }% lwarp
93     \endgroup% lwarp
94     \__siunitx_unit_output_print:
95   }
96 \group_end:% lwarp
97 %

```

```
98 }
```

For parse-numbers=false:

```
99 \cs_set_protected:Npn \__siunitx_range_numbers_aux:n #1
100  {
101    \bool_if:NTF \l__siunitx_number_parse_bool
102    {
103      \tl_clear:N \l__siunitx_number_out_tl
104      \tl_clear:N \l__siunitx_number_out_saved_tl
105      \bool_set_false:N \l__siunitx_number_compound_bool
106      \__siunitx_number_output_parse:n {#1}
107      \bool_if:NT \l__siunitx_number_compound_bool
108        { \msg_error:nnx { siunitx } { multi-part-range } {#1} }
109    }
110  {
111    \__siunitx_unit_output_pre_print:
112    \begingroup%
113      \boolfalse{mathjax}%
114      \__siunitx_print:nn { number } {#1}
115      \LWR@subsingle dollar{%
116        \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)%
117        \{siunitx\}%
118        \__siunitx_print:nn { number } {%
119          \LWR@origensuredmath{#1}%
120        } %
121        } %
122      \endgroup%
123      \__siunitx_unit_output_print:
124    }
125  }
```

For parse-numbers=false:

```
126 \cs_set_protected:Npn \__siunitx_angle_print_direct_aux:nn #1#2 {
127   \tl_if_empty:nF {#1}
128   {
129     \tl_set:Nn \l__siunitx_unit_tl {#2}
130     \begingroup%
131       \boolfalse{mathjax}%
132       \__siunitx_print:nn { number } {#1}
133       \LWR@subsingle dollar{%
134         \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)%
135         \{siunitx\}%
136         \__siunitx_print:nn { number } {%
137           \LWR@origensuredmath{#1}%
138         } %
139         } %
140       \endgroup%
141       \__siunitx_unit_output_print:
142   }
143 }
144 %
```

For quotients, the fraction code is replaced by the symbol code:

```

145 \cs_set_protected:Npn \__siunitx_number_output_quotient_fraction: {
146   \bool_set_true:N \l_siunitx_number_compound_bool
147   \__siunitx_number_output_quotient_aux_i:
148   \tl_set_eq:NN \l_siunitx_number_out_tl
149     \l_siunitx_number_numerator_tl
150   \tl_put_right:NV \l_siunitx_number_out_tl \l_siunitx_output_quotient_tl
151   \tl_put_right:NV \l_siunitx_number_out_tl
152     \l_siunitx_number_denominator_tl
153   \__siunitx_number_output_single_aux:
154 }
```

For units, the fraction code is replaced by the symbol code:

```

155 \cs_set_protected:Npn \__siunitx_unit_format_fraction_fraction: {
156   \__siunitx_unit_format_fraction_symbol_aux:
157   \int_compare:nNnT { \l_siunitx_unit_denominator_int } > { 1 }
158   {
159     \bool_if:NT \l_siunitx_unit_denominator_bracket_bool
160     {
161       \tl_put_left:NV \l_siunitx_unit_denominator_tl \l_siunitx_bracket_open_tl
162       \tl_put_right:NV \l_siunitx_unit_denominator_tl \l_siunitx_bracket_close_tl
163     }
164   }
165   \tl_set_eq:NN \l_siunitx_unit_tl \l_siunitx_unit_numerator_tl
166   \tl_put_right:NV \l_siunitx_unit_tl \l_siunitx_per_symbol_tl
167   \tl_put_right:NV \l_siunitx_unit_tl \l_siunitx_unit_denominator_tl
168 }

169 \cs_set_protected:Npn \__siunitx_angle_print_astronomy_aux: {
170   \prop_get:NnNT \l_siunitx_number_out_prop { mantissa-integer }
171   \l_siunitx_tmpa_tl
172   { \__siunitx_print:nV { number } \l_siunitx_tmpa_tl }
173 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
174 {%
175   \hbox_set:Nn \l_siunitx_angle_marker_box
176   {
177     \__siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
178   }
179   \hbox_set:Nn \l_siunitx_angle_unit_box
180   {
181     \__siunitx_print:nV { unit } \l_siunitx_unit_tl
182     \skip_horizontal:n { -\scriptspace }
183   }
184   \__siunitx_angle_print_astronomy_aux:n { marker }
185   \__siunitx_angle_print_astronomy_aux:n { unit }
186   \hbox_set:Nn \l_siunitx_angle_marker_box
187   {
188     \box_use:N \l_siunitx_angle_marker_box
189     \box_use:N \l_siunitx_angle_unit_box
190   }
191 \dim_compare:nNnTF
192 { \l_siunitx_angle_marker_dim } > { \l_siunitx_angle_unit_dim }
193 { \__siunitx_angle_print_astronomy_marker: }
```

```
194      { \__siunitx_angle_print_astronomy_unit: }
195  }% lateximage
196 {%
197     \__siunitx_print:nV { unit } \l__siunitx_unit_tl
198     \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
199 }%
200 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
201 \l__siunitx_tmpa_tl
202 { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
203 }

204 \cs_set_protected:Npn \__siunitx_textsuperscript:n #1 {\textsuperscript{#1}}


\num  [⟨options⟩] {⟨value⟩}

205 \RenewDocumentCommand \num { o m } {
206   \leavevmode
207   \group_begin:% lwarp
208   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
209   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
210   \bool_set_false:N \l__siunitx_font_set_bool
211   \IfNoValueF {#1}
212   { \keys_set:nn { siunitx } {#1} }
213   \__siunitx_number_output:n {#2}
214   \group_end:% lwarp
215 }

\numrange [⟨options⟩] {⟨value1⟩} {⟨value2⟩}

216 \RenewDocumentCommand \numrange { o m m } {
217   \leavevmode
218   \group_begin:% lwarp
219   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
220   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
221   \bool_set_false:N \l__siunitx_font_set_bool
222   \IfNoValueF {#1}
223   { \keys_set:nn { siunitx } {#1} }
224   \__siunitx_range_numbers:nn {#2} {#3}
225   \group_end:% lwarp
226 }

\ang  {⟨options⟩} {⟨angle⟩}

227 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
228   \group_begin:% lwarp
229   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
230   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
231   \IfNoValueF {#1}
232   { \keys_set:nn { siunitx } {#1} }
233   \__siunitx_angle_output:nnn #2
234   \group_end:% lwarp
235 }
```

```

\si  {<options>} {<unit>}
236 \RenewDocumentCommand \si { o m } {
237   \leavevmode
238   \group_begin:% lwarp
239     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
240     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
241     \bool_set_false:N \l_siunitx_font_set_bool
242     \IfNoValueTF {#1}
243       { \__siunitx_unit_output:nn {#2} { } }
244       {
245         \keys_set:nn { siunitx } {#1}
246         \__siunitx_unit_output:nn {#2} {#1}
247       }
248     \group_end:% lwarp
249 }

\SIRange {<options>} {[<value1>] [<value2>]} {<unit>}
250 \RenewDocumentCommand{\SIRange}{o m m m}
251 {%
252   \leavevmode
253   \group_begin:% lwarp
254     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
255     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
256     \bool_set_false:N \l_siunitx_font_set_bool
257     \IfNoValueTF {#1}
258       { \__siunitx_range_unit:nnnn {#4} { } {#2} {#3} }
259       {
260         \keys_set:nn { siunitx } {#1}
261         \__siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
262       }
263     \group_end:% lwarp
264 }

265 \ExplSyntaxOff

```

For MATHJAX. (The following runs much faster as separate \CusomizeMathJax calls instead of one single call.)

```

266 \begin{warpMathJax}
267 \LWR@infoprocessingmathjax{siunitx}

268 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
269 \CustomizeMathJax{\newcommand{\raiseto}[2]{^{#2}}^{#1}}

```

Used as an end marker when parsing values:

```
270 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

```

\ang  [<options>] {[<value>]}
271 \CustomizeMathJax{\def\LWRsiunitxang{#1;#2;#3;#4}\LWRsiunitxEND{%

```

```

272 \ifblank{#1}{}{\num{#1}\degree}%
273 \ifblank{#2}{}{\num{#2}^{\unicode{x2032}}}\prime
274 \ifblank{#3}{}{\num{#3}^{\unicode{x2033}}}\prime
275 }
276 \CustomizeMathJax{\newcommand{\ang}[2][]{\LWRsiunitxang#2;;\LWRsiunitxEND}}

```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```

277 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
278   \ifblank{#1}{%
279     {}%
280     {%
281       \ifstrelqual{#1}{-}{%
282         {-}%
283         {\LWRsiunitxprintdecimal{#1}\times}%
284       }%
285     10^{\LWRsiunitxprintdecimal{#2}}%
286   }%

```

`\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.

```

287 \ExplSyntaxOn
288 \AtBeginDocument{
289 \ifdefstring{\l_siunitx_output_decimal_tl}{{,}}
290   {%
291     \CustomizeMathJax{\def\LWRsiunitxprintdecimal{\#1.\#2.\#3\LWRsiunitxEND{%
292       \mathrm{\#1}%
293       \ifblank{\#2}{%
294         {}%
295         {,\mathrm{\#2}}%
296       }%
297     }%
298     \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
299       \LWRsiunitxprintdecimal{\#1...}\LWRsiunitxEND%
300     }%
301   }%
302   {%
303     \CustomizeMathJax{\def\LWRsiunitxprintdecimal{\#1,\#2,\#3\LWRsiunitxEND{%
304       \mathrm{\#1}%
305       \ifblank{\#2}{%
306         {}%
307         {.\mathrm{\#2}}%
308       }%
309     }%
310     \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
311       \LWRsiunitxprintdecimal{\#1,,}\LWRsiunitxEND%
312     }%
313   }%
314 }

```

```
315 \ExplSyntaxOff

\num  [⟨options⟩] {⟨value⟩}

316 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%
317     \ifblank{#2}%
318         {\LWRsiunitxprintdecimal{#1}}% no plus
319     {%
320         \ifblank{#1}%
321             {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
322             {%
323                 \LWRsiunitxprintdecimal{#1}%
324                 \unicode{x02B}% plus sign
325                 \LWRsiunitxprintdecimal{#2}%
326             }%
327         }%
328     }%
329 }
330 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
331     \ifblank{#2}%
332         {\LWRsiunitxnumplus#1+++\LWRsiunitxEND}%
333     {%
334         \LWRsiunitxprintdecimal{#1}%
335         \unicode{x02212}% mathematical minus sign
336         \LWRsiunitxprintdecimal{#2}%
337     }%
338 }%
339 }
340 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
341     \ifblank{#2}%
342         {\LWRsiunitxnumminus#1---\LWRsiunitxEND}%
343     {%
344         \LWRsiunitxprintdecimal{#1}%
345         \unicode{x0B1}% \pm
346         \LWRsiunitxprintdecimal{#2}%
347     }%
348 }%
349 }
350 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
351     \ifblank{#2}%
352         {\LWRsiunitxnumpm#1+++\LWRsiunitxEND}%
353     {%
354         \ifblank{#3}%
355             {%
356                 \LWRsiunitxprintdecimal{#1}%
357                 \times%
358                 \LWRsiunitxprintdecimal{#2}%
359             }%
360             {%
361                 \LWRsiunitxprintdecimal{#1}%
362                 \times%
363                 \LWRsiunitxprintdecimal{#2}%
364                 \times%
365                 \LWRsiunitxprintdecimal{#3}%
366             }%
367 }
```

```

367      }%
368 }
369
370 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
371     \ifblank{#2}{%
372         {\LWRsiunitxnumx#1xxxx\LWRsiunitxEND}%
373         {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
374     }%
375
376 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
377     \ifblank{#2}{%
378         {\LWRsiunitxnumD#1DDD\LWRsiunitxEND}%
379         {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
380     }%
381
382 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
383     \ifblank{#2}{%
384         {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
385         {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
386     }%
387
388 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
389     \ifblank{#2}{%
390         {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
391         {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
392     }%
393
394 \CustomizeMathJax{\def\LWRsiunitxnumcomma#1,#2,#3\LWRsiunitxEND{%
395     \ifblank{#2}{%
396         {\LWRsiunitxnume#1eee\LWRsiunitxEND}%
397         {\LWRsiunitxnume#1.#2eee\LWRsiunitxEND}%
398     }%
399
400 \CustomizeMathJax{\newcommand{\num}[2][]{{\LWRsiunitxnumcomma#2,,,\LWRsiunitxEND}}}

\si  [<options>] {<unit>}
401 \CustomizeMathJax{\newcommand{\si}[2][]{\mathrm{#2}}}

\SI  [<options>] {<value>} [<prefix>] {<unit>}
\SI has a second optional arg, which is parsed using \ifnextchar.
402 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
403     {#2}\num{#1}{#3}%
404 }%
405
406 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
407     \num{#1}, {#2}%
408 }}

409 \CustomizeMathJax{\newcommand{\SI}[2][]{%
410     \ifnextchar[%
411         {\LWRsiunitxSIopt{#2}}%
412         {\LWRsiunitxSI{#2}}%
413 }%

```

\numlist  $[\langle options \rangle] \{\langle list \rangle\}$

\numlist should only be used in text mode. If used in MATHJAX, it is merely printed as input.

```
414 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{\#2}}}
```

\numrange  $[\langle options \rangle] \{\langle value1 \rangle\} \{\langle value2 \rangle\}$

\numrange should only be used in text mode. If used in MATHJAX math, an en-dash is used instead of the range-phase.

```
415 \CustomizeMathJax{\newcommand{\numrange}[3][]{\mathrm{\#2}\mathrm{\#x2013}\mathrm{\#3}}}
```

\SIList  $[\langle options \rangle] \{\langle list \rangle\}$

\SIList and \SIrange should only be used in text mode. If used in MATHJAX, a simple emulation is provided.

```
416 \CustomizeMathJax{\newcommand{\SIList}[3][]{\mathrm{\#2}\mathrm{\#3}}}
```

\SIrange  $[\langle options \rangle] \{\langle value1 \rangle\} \{\langle value2 \rangle\} \{\langle unit \rangle\}$

```
417 \CustomizeMathJax{\newcommand{\SIrange}[4][]{\mathrm{\#2}\mathrm{\#4}\mathrm{\#x2013}\mathrm{\#3}\mathrm{\#4}}}
```

\tablenum  $[\langle options \rangle] \{\langle value \rangle\}$

```
418 \CustomizeMathJax{\newcommand{\tablenum}[2][]{\mathrm{\#2}}}
```

```
419 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
```

```
420 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
```

```
421 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
```

```
422 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
```

```
423 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
```

```
424 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
```

```
425 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
```

```
426 %
```

```
427 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
```

```
428 \CustomizeMathJax{\newcommand{\degreeCelsius}{\mathrm{\#x2103}}}
```

```
429 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
```

```
430 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
```

```
431 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
```

```
432 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
```

```
433 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
```

```
434 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
```

```
435 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
```

```
436 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
```

```
437 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
```

```
438 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
```

```
439 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
```

```
440 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
```

```
441 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
```

```
442 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
```

```
443 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
```

```
444 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
```

```
445 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
446 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
447 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
448 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
449 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
450 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
451 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
452 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
453 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
454 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
455 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
456 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
457 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
458 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
459 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
460 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
461 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a\_0}}}
462 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c\_0}}}
463 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}\_a}}
464 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}\_e}}
465 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
466 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
467 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}\_h}}
468 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\Lambda_{\mathrm{x210F}}}}}
469 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\Lambda_{\mathrm{x212B}}}}}
470 \CustomizeMathJax{\let\WRorigbar\bar}
471 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
472 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
473 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
474 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
475 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
476 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
477 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
478 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
479 %
480 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
481 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
482 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
483 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
484 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
485 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
486 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
487 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
488 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
489 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
490 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
491 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
492 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
493 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
494 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
495 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
496 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
497 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
498 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
499 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
```

```
500 %
501 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
502 %
503 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
504 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
505 %
506 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
507 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo\gram}}}
508 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{\#1}}}}
509 \CustomizeMathJax{\newcommand{\squared}{^2}}
510 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{\#1}^2}}
511 \CustomizeMathJax{\newcommand{\cubed}{^3}}
512 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{\#1}^3}}
513 \CustomizeMathJax{\newcommand{\per}{/}}
514 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\unicode{x2103}}}}
515 %
516 \CustomizeMathJax{\newcommand{\fg}{\mathrm{femto\gram}}}
517 \CustomizeMathJax{\newcommand{\pg}{\mathrm{pico\gram}}}
518 \CustomizeMathJax{\newcommand{\ng}{\mathrm{nano\gram}}}
519 \CustomizeMathJax{\newcommand{\ug}{\mathrm{micro\gram}}}
520 \CustomizeMathJax{\newcommand{\mg}{\mathrm{milli\gram}}}
521 \CustomizeMathJax{\newcommand{\g}{\mathrm{gram}}}
522 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo\gram}}}
523 %
524 \CustomizeMathJax{\newcommand{\amu}{\mathrm{amu}}}
525 %
526 \CustomizeMathJax{\newcommand{\pm}{\mathrm{pico\metre}}}
527 \CustomizeMathJax{\newcommand{\nm}{\mathrm{nano\metre}}}
528 \CustomizeMathJax{\newcommand{\um}{\mathrm{micro\metre}}}
529 \CustomizeMathJax{\newcommand{\mm}{\mathrm{milli\metre}}}
530 \CustomizeMathJax{\newcommand{\cm}{\mathrm{centi\metre}}}
531 \CustomizeMathJax{\newcommand{\dm}{\mathrm{deci\metre}}}
532 \CustomizeMathJax{\newcommand{\m}{\mathrm{metre}}}
533 \CustomizeMathJax{\newcommand{\km}{\mathrm{kilo\metre}}}
534 %
535 \CustomizeMathJax{\newcommand{\as}{\mathrm{atto\second}}}
536 \CustomizeMathJax{\newcommand{\fs}{\mathrm{femto\second}}}
537 \CustomizeMathJax{\newcommand{\ps}{\mathrm{pico\second}}}
538 \CustomizeMathJax{\newcommand{\ns}{\mathrm{nano\second}}}
539 \CustomizeMathJax{\newcommand{\us}{\mathrm{micro\second}}}
540 \CustomizeMathJax{\newcommand{\ms}{\mathrm{milli\second}}}
541 \CustomizeMathJax{\newcommand{\s}{\mathrm{second}}}
542 %
543 \CustomizeMathJax{\newcommand{\fmol}{\mathrm{femto\mol}}}
544 \CustomizeMathJax{\newcommand{\pmol}{\mathrm{pico\mol}}}
545 \CustomizeMathJax{\newcommand{\nmol}{\mathrm{nano\mol}}}
546 \CustomizeMathJax{\newcommand{\umol}{\mathrm{micro\mol}}}
547 \CustomizeMathJax{\newcommand{\mmol}{\mathrm{milli\mol}}}
548 \CustomizeMathJax{\newcommand{\mol}{\mathrm{mol}}}
549 \CustomizeMathJax{\newcommand{\kmol}{\mathrm{kilo\mol}}}
550 %
551 \CustomizeMathJax{\newcommand{\pA}{\mathrm{pico\ampere}}}
552 \CustomizeMathJax{\newcommand{\nA}{\mathrm{nano\ampere}}}
553 \CustomizeMathJax{\newcommand{\uA}{\mathrm{micro\ampere}}}
554 \CustomizeMathJax{\newcommand{\mA}{\mathrm{milli\ampere}}}
```

```
555 \CustomizeMathJax{\newcommand{\A}{\ampere}}
556 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
557 %
558 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
559 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
560 \CustomizeMathJax{\newcommand{\l}{\litre}}
561 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
562 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
563 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
564 \CustomizeMathJax{\newcommand{\L}{\liter}}
565 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
566 %
567 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
568 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
569 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
570 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
571 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
572 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
573 %
574 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
575 \CustomizeMathJax{\newcommand{\N}{\newton}}
576 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
577 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
578 %
579 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
580 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
581 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
582 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
583 %
584 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
585 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
586 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
587 %
588 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
589 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
590 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
591 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
592 \CustomizeMathJax{\newcommand{\V}{\volt}}
593 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
594 %
595 \CustomizeMathJax{\newcommand{\W}{\watt}}
596 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
597 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
598 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
599 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
600 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
601 %
602 \CustomizeMathJax{\newcommand{\J}{\joule}}
603 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
604 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
605 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
606 %
607 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
608 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
609 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
```

---

```

610 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
611 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
612 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
613 %
614 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
615 %
616 \CustomizeMathJax{\newcommand{\F}{\farad}}
617 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
618 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
619 %
620 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
621 %
622 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
623 %
624 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
625 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
626 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
627 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
628 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
629 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
630 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
631 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
632 \end{warpMathJax}

```

---

#### File 449 **lwarp-skmath.sty**

§ 557      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:N \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 `\3keys`, 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     { \CustomizeMathJax{\newcommand{\ee}{\mathit{e}}} }
26     { \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     { \CustomizeMathJax{\newcommand{\d}{\mathit{d}}} }
29     { \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. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\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\LWRskmathpd denominator#1^#2^#3\LWRskmathEND{%
44     \ifblank{#1}{}{%
45         \ifblank{#2}{%
46             {\partial{#1}}%
47             {\partial{#1}^{#2}}%
48         }%
49     }%
50 }}
```

Factored from `\LWRskmathpdnostarsub`, following:

The phrase `^{}{}` appears to be required while parsing the carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` 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             \LWRskmathpd numerator#2^{}{}}\LWRskmathEND{%
54                 \def\LWRskmathpdplus{+}{%
55                     \def\LWRskmathpdone{1}{%
56                         \LWRskmathpd numerator#3^{}{}}\LWRskmathEND{%
57                             \LWRskmathpd numerator#4^{}{}}\LWRskmathEND{%
58                                 \LWRskmathpd numerator#5^{}{}}\LWRskmathEND{%
59                         }%
60                     {#1}}%
61     }%
62 }
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64     \LWRskmathpd denominator#1^{}{}}^{}{}}\LWRskmathEND{%
65     \ifblank{#2}{}{,}%
66     \LWRskmathpd denominator#2^{}{}}^{}{}}\LWRskmathEND{%
67     \ifblank{#3}{}{,}%
68     \LWRskmathpd denominator#3^{}{}}^{}{}}\LWRskmathEND{%
69     \ifblank{#4}{}{,}%
70     \LWRskmathpd denominator#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 \CustomizeMathJax{\newcommand{\td}[2]{%
92   \LWRskmathtdsub{#1}#2{} \LWRskmathEND%
93 }}

94 \CustomizeMathJax{\newcommand{\E}[1]{%
95   \operatorname{E}\left[\#1\right]}
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 \CustomizeMathJax{\newcommand{\cov}[2]{%
108   \operatorname{Cov}\left(\#1,\#2\right)%
109 }}}
```

Common code for \sin etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][]{%
112   \ifblank{#1}{}{^{#1}}%
113   \ifblank{#2}{}{\left(\#2\right)}%
114 }}

115 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
116   \operatorname{#1}%
117   \LWRskmathtrigtwo%
118 }}

119 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
120 \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{\LWRskmathexpparens}[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         {\mathrm{e}}^{\mathrm{#1}}{%
152             \LWRskmathexpparens{\mathrm{#1}}{%
153                 \LWRskmathexpparens{\mathrm{#1}}{%
154                     \LWRskmathexpparens{\mathrm{#1}}{%
155     }{%
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar{\LWRskmathexpparens{\mathrm{#1}}}{\LWRskmathexpnostar}}}

```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159     \operatorname{\LWRskmathminname}{%
160         \ifblank{#1}{}{%
161             _{\mathchoice{\mathclap{\mathrm{#1}}}{\mathrm{#1}}{\mathrm{#1}}{\mathrm{#1}}{%
162         }{%
163             \ifblank{#2}{}{\mathrm{#2}}{%
164     }{%

```

```

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166   \ifblank{#1}%
167     {\operatorname{\LWRskmathminname}}%  

168   {%
169     \underset{%
170       {\mathchoice{\mathclap{#1}{#1}{#1}{#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 }
```

```
208      }
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}
```

---

**File 450 l warp-slantsc.sty**

§ 558      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 451 l warp-slashed.sty**

§ 559      Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg slashed **slashed** works as-is 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}[1]{\cancel{#1}}}
4 \end{warpMathJax}
```

---

**File 452 l warp-soul.sty**

§ 560      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     {capsspacing}{#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 453 **l warp-soulpos.sty**

#### § 561 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{\ulendtype}{0}
18 \newcommand\ulposttolerance{0}%
```

---

**File 454 lwarf-soulutf8.sty****§ 562 Package soulutf8**

Pkg soulutf8 soulutf8 is emulated.

lwarf's HTML output naturally supports UTF-8 encoding.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]  
2 \RequirePackage{soul}

---

**File 455 lwarf-splitbib.sty****§ 563 Package splitbib**

(Emulates or patches code by NICOLAS MARKEY.)

Pkg splitbib splitbib is patched for use by lwarf.

**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@styleone#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 456 **l warp-splitidx.sty**

§ 564 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg **splitidx** **splitidx** is patched for use by **l warp**.

If the **latexmk** option is selected for **l warp**, **latexmk** will compile the document but will *not* compile the indexes. **l warpmk printindex** and **l warpmk 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 [683.17](#) in the **l warp-patch-memoir** package for the **\@wrspindexhyp** 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\@onellevel@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}%           lwarp
23%     \label{LWRindex-\arabic{LWR@autoindex}}%    lwarp
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 }

```

`lwarp` defines sectioning commands with `xparse`, 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 457 **lwarp-srcltx.sty**

§ 565 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 458 l warp-srctex.sty****§ 566 Package srctex**

Pkg srctex srctex is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

---

**File 459 l warp-stabular.sty****§ 567 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 [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}{\vphantom{#1}}
6 }
7 {\end{tabular}}
```

Env stabular [ $\langle width \rangle$ ] [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}{\vphantom{#1}}
12 }
13 {\end{tabular}}
```

---

File 460 **l warp-stackengine.sty**

§ 568 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGETES.)

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 lateximages 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%
55       l warp
56       \LWR@restoreorigformatting%
57       \RenewDocumentEnvironment{ lateximage }{ s o o d () }{}{ l warp: inside group }
58       \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
59       \expandafter\gdef\expandafter#1\expandafter{%
60         \expandafter\begin\expandafter{ lateximage \expandafter}%
61         \expandafter\usebox\expandafter%
62         {\csname\sv@name content\endcsname}%
63         \expandafter\end\expandafter{ lateximage \expandafter}%
64       }%
65     \endgroup%
66   l warp
67 }

```

---

File 461 **l warp-stackrel.sty**

§ 569      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 462 **l warp-statex2.sty**

§ 570 Package **statex2**

(Emulates or patches code by RODNEY A SPARAPANI.)

Pkg statex2 **statex2** is patched for use by **l warp**, and emulated for MATHJAX.

- ⚠ As of this version, option `autobold` does not appear to work for PDF output.
- ⚠ For MATHJAX, the tilde character `\sim` 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\STATEand%
  \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}[]{%
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@info{processingmathjax{statex2}}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathit{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mathit{\mb{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mathit{\mb{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mathit{\mb{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mathit{\mb{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mathit{\mb{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mathit{\mb{\chi^2}}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mathit{\mb{\frac{\mathrm{d}{}_{#1}}{\mathrm{d}{}_{#2}}}}}\wrap{\mathit{\mb{#2}}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mathit{\mb{\frac{\mathrm{d}{}_{#1}}{\mathrm{d}{}_{#2}}}}}\wrap{\mathit{\mb{#1}}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mathit{\mb{\mathit{e}}^{#1}}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{\mathit{\mb{\mathit{E}}}_{\mathit{\mb{#1}}}\mathit{\mb{\frac{\mathrm{d}{}_{#2}}{\mathrm{d}{}_{#1}}}}}\wrap{\mathit{\mb{#2}}}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mathit{\mb{\frac{\alpha}{2}}}}}
44 \CustomizeMathJax{\newcommand{\I}[2]{\mathit{\mb{\mathit{I}}}_{\mathit{\mb{#1}}}\mathit{\LWRwrapparen{\mb{#2}}}}}
45   \mathit{\mb{\mathit{I}}}_{\mathit{\mb{#1}}}\mathit{\LWRwrapparen{\mb{#2}}}}%
46 }
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48   \mathit{\mb{\frac{\Gamma_{#1+#2}}{\Gamma_{#1}\Gamma_{#2}}}}}}%
49 }
50 \CustomizeMathJax{\newcommand{\If}{\mathit{\mb{\mathit{if}}};}}
51 \CustomizeMathJax{\newcommand{\im}{\mathit{\mb{\mathit{i}}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\mathit{\overline{o}}}}
53 \CustomizeMathJax{\newcommand{\ow}{\mathit{\mb{\mathit{otherwise}}};}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55   \mathit{\mb{\frac{\partial_{#1}}{\partial_{#2}}}}}\wrap{\mathit{\mb{#2}}}}%
56 }
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58   \mathit{\mb{\frac{\partial_{#1}}{\partial_{#2}}}}}\wrap{\mathit{\mb{#1}}}}%
59 }
60 \CustomizeMathJax{\newcommand{\sd}{\mathit{\mb{\sigma}}}}
61 \CustomizeMathJax{\newcommand{\ul}{\mathit{\underline{o}}}}

```

```

62 \CustomizeMathJax{\newcommand{\V}[2][]{\mb{\mathrm{V}}}_{\mb{#1}}\wrap{\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{\mb{\mathrm{iid}}}{\sim}}}
72 \CustomizeMathJax{\newcommand{\ind}{\stackrel{\mb{\mathrm{ind}}}{\sim}}}
73 \CustomizeMathJax{\newcommand{\indpr}{\stackrel{\mb{\mathrm{ind}}}{\stackrel{\mb{\mathrm{prior}}}{\sim}}}}
74
75 \CustomizeMathJax{\newcommand{\post}{\stackrel{\mb{\mathrm{post}}}{\sim}}}
76 \CustomizeMathJax{\newcommand{\prior}{\stackrel{\mb{\mathrm{prior}}}{\sim}}}
77
78 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
79 \CustomizeMathJax{\renewcommand{\Gamma}[1]{\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}}}
80
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}}\wrap{\mb{#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\mid}{\mb{\mid}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}}_{\mb{#1}}\LWRwrapparen{\mb{#1}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}}_{\mb{#1}}\LWRwrapparen{\mb{#1}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}}_{\mb{#1}, \#2}\LWRwrapparen{\mb{#1}, \#2}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}}_{\mb{#1}}\LWRwrapparen{\mb{#1}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{\mb{\mathrm{Hypergeometric}}}_{\mb{#1}, \#2, \#3}}
95
96 \CustomizeMathJax{\newcommand{\M}[2]{\mb{\mathrm{Multinomial}}}_{\mb{#1}, \#2}\LWRwrapparen{\mb{#1}, \#2}}
97
98 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}}_{\mb{#1}, \#2}\LWRwrapparen{\mb{#1}, \#2}}
99
100 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}}_{\mb{#1}}\LWRwrapparen{\mb{#1}}}
101
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{\frac{\Gamma[#2+1]\Gamma[#3+1]\Gamma[#2+#4-#1]\Gamma[#3+#4]}{\Gamma[#1+1]\Gamma[#2-#1+1]\Gamma[#2+#3+#4]\Gamma[#3]\Gamma[#4]}\I[#1]{\{0, 1, \dots, #2\}}, \where #3>0, \#4>0 \and n=1, 2, \dots}}
105
106 \CustomizeMathJax{\newcommand{\pBin}[3][x]{\binom{\#2}{\#1}\#3^{\#1}\LWRwrapparen{\mb{#1-#3}^{\#2-#1}}}}
107 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{\frac{1}{\#1!}\#2^{\#1}e^{-\#2}\I[#1]{\{0, 1, \dots, #2\}}, \where p \in (0, 1) \and n=1, 2, \dots}}
108
109
110
111
112
113
114
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{\Bet}[2]{\mb{\mathrm{Beta}}}\LWRwapparen{\mb{#1,\ #2}}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
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{Log}}\!-\!\mathbf{N}}}\LWRwapparen{\mb{#1,\ #2}}%}
137 }
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}\!-\!\mathbf{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}{\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}{\Gamma(\#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}}{%
174 %          {\frac{1}{\sqrt{2\pi}}}\e^{-#1^2/2}}{%
175 %          {\frac{1}{\sqrt{2\pi}}\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\cdot\sqrt{2\pi}}\cdot #3}\e{\LIR[#1]{0,\infty}},%
179     \where #2>0 \and #3>0%
180 }%
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 %      \ifthenelse{\equal{#2, #3}{0, 1}}{\LIR[#1]{0,1}}{%
183 %          {\frac{#3-#2}{#2}\cdot #3}\e{\LIR[#1]{#2, #3}}, \where #2<#3}}%
184 }% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=}{[1]{\bar{#1}}}}
187 \CustomizeMathJax{\let\widehat}
188 \CustomizeMathJax{\let\widetilde}
189 \CustomizeMathJax{\newcommand{\'}[1]{\LWRwapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b}[1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\mb{\mathrm{#1}}}}
193 \CustomizeMathJax{\newcommand{\ldots}{\ldots}}
194 \end{warpMathJax}

```

---

### File 463 lwarf-statistics.sty

## § 571 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 Lwarf package are labelled "lwarf".

Redefined using the lwarf version of &:

3 \StartDefiningTabulars% lwarf

```
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}
```

```
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 \fp_set_eq:NN
125     \l__statistics_table_prevICF_fp
126     \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% lwarp
151 %
152     \l__statistics_table_preline_tl
153     \seq_use:Nn
154         \l__statistics_table_contents_seq
155         { \l__statistics_table_newline_tl }
156 %
157     \l__statistics_table_postline_tl
158 %
159     \end{array}$%
160     \end{tabular}% lwarp
161 }

```

With `lwarp`, `\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%      lwrap
179 }
180
181 \__statistics_setup:nn { table } {
182     values/format = \ensuremath{#1},
183     values/format = {#1},%      lwrap
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 \ExplSyntaxOff
```

---

File 464 **l warp-statmath.sty**

§ 572 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.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
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 465 **lwarf-steinmetz.sty**

§ 573 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg **steinmetz** **steinmetz** is patched for use by **lwarf**. 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{/}\#2}
5   \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/}\#2}}
10 \end{warpMathJax}

```

---

File 466 **lwarp-stfloats.sty**

§ 574 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 467 **lwarp-struktex.sty**

§ 575 Package **struktex**

(*Emulates or patches code by JOBST HOFFMANN.*)

Pkg **struktex** **struktex** is patched for use by **lwarp**.

**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 468 **l warp-subcaption.sty**

#### § 576 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 469 **l warp-subfig.sty**

#### § 577 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 `lwarp-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} lwarp
4 \IfValueTF{#2}{%
5   \LWR@setlatestname{#2}%
6 }{%
7   \IfValueTF{#3}{%
8     \LWR@setlatestname{#3}%
9   }{%
10 }%
11 \LWR@stopars% lwarp
12 @ifundefined{FBsc@max}{%
13   {\FB@readaux{\let\FBsuboheight\relax}}%
14 @tempcpta=\@ne
15 \if@minipage
16   @tempcpta=\z@
17 \else@ifdim \lastskip=\z@ \else
18   @tempcpta=\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 %   @tempdima=\wd@\tempboxa
30 %   @ifundefined{FBsc@max}{%
31 %     {\global\advance\Xhsizet-\wd@\tempboxa
32 %      \dimen@\ht@\tempboxa
33 %      \advance\dimen@\dp@\tempboxa
34 %      \ifdim\dimen@>\FBso@max
35 %        \global\FBso@max\dimen@
36 %      \fi}%
37 }
```

Do not use boxes, which interfere with `lateximages`:

```
37 %      \vtop%
38   \bgroup
39 %      \vbox%
40   \bgroup
41     \ifcase\@tempcnta
42       \ominipagefalse
43     \or
44 %       \vskip\sff@top
45     \or
46       \ifdim \lastskip=\z@ \else
47         \attempskip\sf@top\relax\@xaddvskip
48       \fi
49     \fi
50     \sf@ifpositiontop{%
51       \ifx \empty\relax \else
52         \sf@subcaption{\#1}{\#2}{\#3}%
53 %         \vskip\sff@capskip
54 %         \vskip\sff@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\FBsuboheight\relax
69     \box@\tempboxa
70     #4
71   \else
72     \vbox to \FBsuboheight{\FBafil\box@\tempboxa\FBbfil}%
73     #4
74   \fi}%
75   \LWR@stopars% lwarp
76   \egroup
77   \ifx \empty\relax \else
78     \vskip\sff@capskip
79   \hrule width0pt height0pt depth0pt
80   \sf@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@\@captype}\m@ne
```

```
92      \fi
93 \end{minipage}\% l warp
94 \LWR@startpars\% l warp
95 \endgroup\ignorespaces%
96 }%
```

```
\sf@subcaption {<1 type>} {<2 lofentry>} {<3 caption>}
97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stopars\% l warp
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     \sf@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}\% l warp
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}\% l warp
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}% l warp
160             \caption@make
161             {\@nameuse{sub@\capttype name}}%
162             {\@nameuse{thesub@\capttype}}%
163             {#3}
164 \LWR@traceinfo{sfsubcap C1}% l warp
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}
183
184 \def\newsubfloat[#1]{%
185   \LWR@orig[\#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 470 **l warp-subfigure.sty**

## § 578 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 471 **l warp-subsupscripts.sty**

§ 579 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{\lrsupscriptsC}[5]{%
10    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
11  }
12 }
13 \CustomizeMathJax{%
14   \newcommand{\lrsuperscriptsC}[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{\lrsupscripts}[3]{\fourscripts{\#1}{\#2}{\#3}%
25 }
26 \CustomizeMathJax{%
27   \newcommand{\lrsuperscripts}[3]{\fourscripts{\#1}{\#2}{\#3}%
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}%
37 }
38 \CustomizeMathJax{%
39   \newcommand{\lsuperscript}[3][-16ex]{\twolscripts{\#1}{\#2}{\#3}%
40 }
```

---

```

41 \CustomizeMathJax{%
42     \newcommand{\rsubscript}[3]{-.07ex}{\twoscripts[#1]{#2}{#3}}
43 }
44 \CustomizeMathJax{%
45     \newcommand{\rsuperscript}[3]{-.07ex}{\twoscripts[#1]{#2}{#3}{}}}
46 }
47 \end{warpMathJax}
```

---

File 472 **l warp-supertabular.sty**

§ 580 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.

⚠ **latextimage** supertabular and xtab are not supported inside a latextimage.

```

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 473 l warp-svg.sty**

§ 581      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 474 l warp-swfigure.sty****§ 582 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 475 l warp-syntonly.sty****§ 583 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 476 l warp-tabfigures.sty****§ 584 Package tabfigures**

Pkg tabfigures tabfigures is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

**File 477 l warp-tablefootnote.sty****§ 585 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 478 l warp-tables.sty****§ 586 Package tabs**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg tabs tabs is emulated. \LWR@hline is used to handle the optional argument when tabs is loaded.

for HTML output: 1 \LWR@ProvidesPackageDrop{tabs}

2 \newdimen\tablinesep  
3 \newdimen\arraylinesep  
4 \newdimen\extrarulesep

---

**File 479 l warp-tabularx.sty****§ 587 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}

3 \DeclareDocumentEnvironment{tabularx}{m o m}
4 {\begin{array}{#3}}
5 {\end{array}}
6
7 \DeclareDocumentEnvironment{tabularx*}{m o m}
8 {\begin{array}{#3}}
9 {\end{array}}
```

---

**File 480 l warp-tabulary.sty****§ 588 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{array}{#3}}
5 {\end{array}}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\begin{array}{#3}}
9 {\end{array}}
10
11 \newdimen\tymin
12 \newdimen\tymax
13 \def\tyformat{}

---


```

---

File 481 **l warp-tagpdf.sty**

§ 589      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}[2019/07/02]

```
2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl
5
6 \keys_define:nn { uftag / mc }
7 {
8   tag .code:n = % the name (H,P,Span etc
9   {},
10  raw .code:n =
11  {}
12  ,
13  alttext .code:n      = % Alt property
14  {
15    \gdef\lWR@ThisAltText{\detokenize\expandafter{\#1}}%
16  },
17  alttext-o .code:n     = % Alt property
18  {
19    \gdef\lWR@ThisAltText{\detokenize\expandafter{\#1}}%
20  },
21  actualtext .code:n    = % ActualText property
22  {},
23  actualtext-o .code:n   = % ActualText property
24  {},
25  label .tl_set:N       = \l__uftag_mc_key_label_tl,
26  artifact .code:n      = {},
27  artifact .default:n   = {notype}
28 }
29
30 \keys_define:nn { uftag / struct }
31 {
32   label .tl_set:N       = \l__uftag_struct_key_label_tl,
33   stash .bool_set:N     = \l__uftag_struct_elem_stash_bool,
34   tag .code:n          = % S property
35   {},
36   title .code:n         = % T property
37   {},
38   title-o .code:n        = % T property
39   {},
40   alttext .code:n        = % Alt property
```

```
41  {
42    \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
43  },
44  alttext-o .code:n      = % Alt property
45  {
46    \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
47  },
48  actualtext .code:n   = % ActualText property
49  {},
50  actualtext-o .code:n  = % ActualText property
51  {},
52 }
53
54 \NewDocumentCommand \tagpdfsetup { m }{ }
55
56 \cs_set_eq:NN \tagpdfifluatexTF \sys_if_engine_luatex:TF
57 \cs_set_eq:NN \tagpdfifluatexT \sys_if_engine_luatex:T
58 \cs_set_eq:NN \tagpdfifpdftexT \sys_if_engine_pdftex:T
59 \cs_new:Npn \tagpdfget #1 {}
60 \cs_new:Npn \uftag_get:n #1 {}
61
62 \NewDocumentCommand \tagmcfinTF { m m }{ }
63
64 \NewDocumentCommand \tagmcbegin { m }{\uftag_mc_begin:n {\#1}\ignorespaces}
65 \cs_new_protected:Nn \uftag_mc_begin:n {
66   \group_begin:
67   \keys_set:nn { uftag / mc } {\#1}
68   \group_end:
69 }
70
71 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
72
73 \cs_new_protected:Nn \uftag_mc_end: {\ThisAltText{}}
74
75 \NewDocumentCommand \tagmcuse { m }{ }
76
77 \cs_new_protected:Nn \uftag_mc_use:n {}
78
79 \NewDocumentCommand \tagstructbegin { m }{
80   \uftag_struct_begin:n {\#1}
81 }
82
83 \cs_new_protected:Nn \uftag_struct_begin:n
84 {
85   \group_begin:
86   \keys_set:nn { uftag / struct } { #1 }
87   \group_end:
88 }
89
90 \NewDocumentCommand \tagstructend { }{\ThisAltText{}}
91
92 \cs_new_protected:Nn \uftag_struct_end: {\ThisAltText{}}
93
94 \NewDocumentCommand \tagstructuse { m }{ }
95
```

```
96 \% \NewDocumentCommand\showtagpdfmcdata { 0 {\_\_uftag\_get\_mc\_abs\_cnt:} }{}  
97 % What is the second argument?  
98  
99 \NewDocumentCommand\showtagpdfattributes { }{}  
100  
101 \sys_if_engine_luatex:T  
102 {  
103   \NewDocumentCommand\pdffakespace { }  
104 {  
105   \_\_uftag\_fakespace:  
106 }  
107 }  
108  
109 \ExplSyntaxOff
```

---

File 482 **l warp-tascmac.sty**

§ 590 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 483 **l warp-tcolorbox.sty**

§ 591      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}{tcbscolback}{HTML}\LWR@tcbscolback
6   \convertcolorspec{named}{tcbscolframe}{HTML}\LWR@tcbscolframe
7   \iftcb@titlefilled%
8     \convertcolorspec{named}{tcbscolbacktitle}{HTML}\LWR@tcbscolbacktitle
9   \else
10     \convertcolorspec{named}{tcbscolframe}{HTML}\LWR@tcbscolbacktitle
11   \fi
12   \convertcolorspec{named}{tcbscoltitle}{HTML}\LWR@tcbscoltitle
13   \convertcolorspec{named}{tcbscolupper}{HTML}\LWR@tcbscolupper
14   \convertcolorspec{named}{tcbscollower}{HTML}\LWR@tcbscollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18   border-top: 1px solid \LWR@origpound\LWR@tcbscolframe ;
19   border-bottom: 1px solid \LWR@origpound\LWR@tcbscolframe ;
20   background: \LWR@origpound\LWR@tcbscolbacktitle ;
21   color: \LWR@origpound\LWR@tcbscoltitle ;
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@tcbsolidframe ;
52     background: \LWR@origpound\LWR@tcback ;
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@tcbsolidupper ;
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         {%
90             Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91             or SVG math.\MessageBreak
92             Enter 'H' for possible solutions%
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@tcbcolframe ;
126         color: \LWR@origpound\LWR@tcbcollower ;
127     ]{tcolorboxlower}
128     \tcb@insert@before@lower%
129 }
```

Starred and unstarred \tcbline are simple \hrules.

```

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
141 \newcommand{\LWR@HTML@tcbox}[2][]{
142   \LWR@printpendingfootnotes
143   \LWR@tcolorbox@dostartfloat%
144   \begingroup
145   \tcb@layer@inc
146   \tcb@apply@box@options{#1}
147 %     \tcbset{title=#1}
148   \boolfalse{\LWR@havetcblower}
149   \LWR@tcolorboxstart{tcolorbox inlineminipage}
150   \tcb@insert@before@upper%
151   #2
152   \ifbool{\LWR@havetcblower}{%
153     \tcb@insert@after@lower%
154   }{%
155     \tcb@insert@after@upper%
156   }%
157   \end{BlockClass}
158   \LWR@printpendingfootnotes
159   \end{BlockClass}
160   \tcb@layer@dec%
161   \endgroup%
162   \LWR@tcolorbox@dostartfloat%
163   \global\booltrue{\LWR@minipagethispar}%
164 }
165 \LWR@formatted{tcbox}
166
167 \appto{\LWR@restoreMathJaxformatting}{%
168   \renewcommand{\tcbox}[2][]{#2}%
169 }

```

Patches for the subtitle, which is placed inside a <div> of class tcboxsubtitle.

```

170 \xpatchcmd{\tcbsubtitle}
171   {\begingroup}
172   {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcboxsubtitle}}
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 \tcbbox.

```
181 \AtBeginDocument{
182     \ifdef{\tcboxfit}{%
183         \let\LWR@HTML@tcboxfit\tcbox%
184         \LWR@formatted{tcboxfit}
185     }{}
186 }
```

\tcboxtitle is patched to support the text font.

```
187 \LetLtxMacro{\LWR@HTML@tcboxtitle}{\tcboxtitle}
188 \xpatchcmd{\LWR@HTML@tcboxtitle}
189     {\kv tcb@before@title\tcboxtitletext}
190     {\kv tcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcboxtitletext}}}
191     {}
192     {\LWR@patcherror{tcolorbox}{\LWR@HTML@tcboxtitle}}
193 \LWR@formatted{tcboxtitle}
```

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. `\tcbboxmath` 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\tcbboxmath\space and
203             \protect\tcbhighmath\space are emulated.\MessageBreak
204             Enter 'H' for possible solutions%
205         }%
206     }%
207     Remove tcolorbox math-related options, and instead\MessageBreak
208     use the usual math environments inside each tcolorbox.%
209   }%
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@tcbxmath}[2][]{\#2}
228 \LWR@formatted{tcbxmath}
229 \newcommand{\LWR@HTML@tcbhighmath}[2][]{\#2}
230 \LWR@formatted{tcbhighmath}
231 \appto{\LWR@restoreMathJaxFormatting}{%
232   \renewcommand{\tcbxmath}[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{\tcbbox}[2][]{\boxed{\text{\#2}}}}
240 \CustomizeMathJax{\newcommand{\tcbboxfit}[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{\tcbxmath}[2][]{\boxed{\#2}}}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][]{\boxed{\#2}}}

```

#### File 484 **l warp-tensor.sty**

§ 592 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\LWRtensorindicesthree{\LWRtensorindicesthree}}
4 \CustomizeMathJax{\def\LWRtensorindicesup{\LWRtensorindicesup}}

```

If not a superscript nor a subscript, processing stops.

```
5 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{}}
```

Check ahead for a superscript or a subscript.

```
6 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{}
7   \ifnextchar ^ \LWRtensorindicesthree^ \LWRtensorindicesthree^
8 {}}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesthree}{}
11   \ifnextchar _ \LWRtensorindicesthree_ \LWRtensorindicesthree_
12 {}}
```

Ignore star.

```
13 \CustomizeMathJax{\newcommand{\LWRtensorindicestwo}{}
14   \ifstar \LWRtensorindicesthree \LWRtensorindicesthree
15 {}}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindices#1}}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][{}]{\indices{#1}{#2}{#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{LWRtensoronucleonnumber}_{\mathrm{#1}}%
24       \mathrm{#2}%
25     }%
26   }%
27 }

28 \CustomizeMathJax{%
29   \newcommand{\nuclide}[1][{}]{%
30     \def \LWRtensoronucleonnumber{\mathrm{#1}}%
31     \mathrm{LWRnuclidetwo}%
32   }%
33 }
34 \end{warpMathJax}
```

---

**File 485 l warp-termcal.sty**

§ 593      Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg termcal termcal is patched for use by l warp.

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@doday}
8   {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9   {%
10     \calprintdate\hfill\ifclassday\calprintclass\fi%
11   }
12   {}
13   {\LWR@patcherror{termcal}{ca@doday}}
```

Change each of two ampersands to call the l warp 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 486 l warp-textarea.sty**

§ 594      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 487 **l warp-textcomp.sty**

## § 595 Package **textcomp**

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg `textcomp` `textcomp` is patched for use by `l warp`.

### § 595.1 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.

### § 595.2 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 595.3 HTML symbols

For `HTML`, use `HTML` entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `LuaLaTeX` and `XeLaTeX`.

#### § 595.3.1 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

```

### § 595.3.2 X~~L~~ATEX and Lua~~L~~TEX 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}{ℓ}
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{texttwelvedash}
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}
```

#### § 595.4 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*\{\textthreequartersemdash}{}
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}{}
121  \renewcommand*\{\capitalcedilla}{}
122  \renewcommand*\{\capitalogonek}{}
123  \renewcommand*\{\capitalgrave}{}
124  \renewcommand*\{\capitalacute}{}
125  \renewcommand*\{\capitalcircumflex}{}
126  \renewcommand*\{\capitaltilde}{}
127  \renewcommand*\{\capitaldieresis}{}
128  \renewcommand*\{\capitalhungarumlaut}{}
129  \renewcommand*\{\capitalring}{}
130  \renewcommand*\{\capitalcaron}{}
131  \renewcommand*\{\capitalbreve}{}
132  \renewcommand*\{\capitalmacron}{}
133  \renewcommand*\{\capitaldotaccent}{}
134 }% FilenameNullify
135
136 }% AtBeginDocument

```

---

#### File 488 **lwarf-textfit.sty**

#### § 596 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 489 **l warp-textpos.sty**

§ 597 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 490 **l warp-theorem.sty**

§ 598 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg **theorem** **theorem** is patched for use by **l warp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

---

 Table 20: 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.

---

## § 598.1 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}\% l warp
8   }%
9   {%
10     \theorem@style{#1}%
11     \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
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\xntheorem#1#2[#3]{%
17   \expandafter\@if definable\csname #1\endcsname
18   {%
19     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\% l warp
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}}}\% l warp
31   }%
32
33 \gdef\yntheorem#1#2{%
34   \expandafter\@if definable\csname #1\endcsname
35   {
```

```

36 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
37 \@definecounter{#1}%
38 \expandafter\xdef\csname the#1\endcsname{\@thmcnter{#1}}%
39 \def\@tempa{\global\@namedef{#1}}\expandafter \atempa
40 \expandafter{\csname th@\the\@theorem@style \expandafter
41 \endcsname \the\@theorem@bodyfont \athm{#1}{#2}}%
42 \global \expandafter \let \csname end#1\endcsname \endtheorem
43 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}{% lwarp
44 }%
45
46 \gdef\@othm#1[#2]{%
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}{% lwarp
53 \expandafter \xdef \csname the#1\endcsname
54 {\expandafter \noexpand \csname the#2\endcsname}%
55 \def\@tempa{\global\@namedef{#1}}\expandafter \atempa
56 \expandafter{\csname th@\the\@theorem@style \expandafter
57 \endcsname \the\@theorem@bodyfont \athm{#2}{#3}}%
58 \global \expandafter \let \csname end#1\endcsname \endtheorem
59 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}{% lwarp
60 }%
61 \fi}

```

## § 598.2 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 }
```

---

```

134      }%
135 \def\@opargbegintheorem##1##2##3{%
136   \item[%
137     \InlineClass{theoremheader}{##2 \quad ##1\ (###3)}%
138   ]%
139 }
140 }
```

Patched for css:

```

141 \gdef\@thm#1{\refstepcounter{#1}%
142 \LWR@forcenewpage% l warp

143 \LWR@printpendingfootnotes% l warp

144 \BlockClass{theorembdy}\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% l warp

155 \endBlockClass
156 }
```

---

#### File 491 **l warp-thinsp.sty**

§ 599 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 492 **l warp-thm-listof.sty**

§ 600 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   {%
14     \csdef{l@\thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
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 493 **l warp-thm-restate.sty**

§ 601 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\thisthmstyle{\#2}\@ifstar}
5   {}
6   {\LWR@patcherror{thm-restate}{thmt@restatable}}
```

---

#### File 494 l warp-thmbox.sty

### § 602 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}%
15   }
16   {%
17     \qquad\HTMLunicode{220E}% end of proof symbol
18     \end{BlockClass}
19   }
20
21 \renewenvironment{example}[1][\exampename]{%
22   {%
23     \begin{BlockClass}{thmboxexample}%
24     \InlineClass{thmboxexampename}{\exampename}%
25   }
26   \end{BlockClass}
27
28 \renewenvironment{leftbar}[1][]{%
29   {\begin{BlockClass}{thmboxleftbar}}
30   {\end{BlockClass}}}
```

---

**File 495 l warp-thmtools.sty****§ 603 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 496 l warp-threadcol.sty****§ 604 Package threadcol**

Pkg threadcol threadcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```
2 \newcommand{\setthreadname}[1]{}
```

---

**File 497 l warp-threeparttable.sty****§ 605 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  [<alignment>]
      2 \newenvironment*{threeparttable}[1][b]
      3   {\def\@captype{table}}
      4   {}

Env  tablenotes    [<options>]
      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 [<alignment>]
     16 \newenvironment*{measuredfigure}[1][t]
     17   {\def\@captype{figure}}
     18   {}
```

---

File 498 **l warp-threeparttablex.sty**

§ 606      Package **threeparttablex**

Pkg threeparttablex **threeparttablex** is patched for use by **l warp**.

**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 499 **lwarp-thumb.sty**

§ 607 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 500 **l warp-thumbs.sty**

§ 608 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{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbnophantom}{}
```

---

File 501 **l warp-tikz.sty**

§ 609 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}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}
```

Env `pgfpicture` The `\pgfpicture` environment is enclosed inside a `\lateximage`. Enclose the low-level `\pgfpicture` in a `\latexitimage`. This is also used by the higher-level `\tikz` and `\tikzpicture`.

```
7 \preto\pgfpicture{%
8   \begin{latentimage}[-tikz-\~\PackageDiagramAltText]%
9   \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10   {}%
11   {\catcode`\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{latentimage}}
```

`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 502 **l warp-tikz-imagelabels.sty**

§ 610 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 503 **l warp-titleps.sty**

## § 611 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 {<name>} [<style>] {<commands>}
2 \NewDocumentCommand{\newpagestyle}{m o m}{}{}
```

```
\renewpagestyle {<name>} [<style>] {<commands>}
3 \NewDocumentCommand{\renewpagestyle}{m o m}{}{}
```

```
\sethead [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}
4 \NewDocumentCommand{\sethead}{o o o m m m}{}{}
```

```
\setfoot [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}{}
```

```
\settitemarks * {<names>}
6 \NewDocumentCommand{\settitemarks}{s m}{}{}
```

```
\headrule
7 \newcommand*{\headrule}{}{}
```

```
\footrule
```

```
8 \newcommand*{\footrule}{}  
  
\setheadrule {⟨length⟩}  
9 \newcommand*{\setheadrule}[1]{}  
  
\setfootrule {⟨length⟩}  
10 \newcommand*{\setfootrule}[1]{}  
  
\makeheadrule  
11 \newcommand*{\makeheadrule}{}  
  
\makefootrule  
12 \newcommand*{\makefootrule}{}  
  
\setmarkboth {⟨code⟩}  
13 \newcommand{\setmarkboth}[1]{}  
  
\widenhead  
14 \NewDocumentCommand{\widenhead}{s o o m}{}  
  
\bottitlemarks  
15 \newcommand*{\bottitlemarks}{}  
  
\toptitlemarks  
16 \newcommand*{\toptitlemarks}{}  
  
\firsttitlemarks  
17 \newcommand*{\firsttitlemarks}{}  
  
\nexttitlemarks  
18 \newcommand*{\nexttoptitlemarks}{}  
  
\outertitlemarks  
19 \newcommand*{\outertitlemarks}{}  
  
\innertitlemarks  
20 \newcommand*{\innertitlemarks}{}  
  
\newtitlemark * {⟨name⟩}
```

```
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 * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
24 \NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}  
  
\setfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
25 \NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}  
  
\nextfloathead * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
26 \NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}  
  
\nextfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
27 \NewDocumentCommand{\nextfloatfoot}{s o o o m m m m m}{}  
  
\newmarkset {\langle markset\rangle}  
28 \newcommand{\newmarkset}[1]{}  
  
\newextramark * {\langle markset\rangle} {\langle macro-name\rangle}  
29 \NewDocumentCommand{\newextramarkset}{s m m}{}  
  
\botextramarks {\langle markset\rangle}  
30 \newcommand{\botextramarks}[1]{}  
  
\topextramarks {\langle markset\rangle}  
31 \newcommand{\topextramarks}[1]{}  
  
\firstextramarks {\langle markset\rangle}  
32 \newcommand{\firstextramarks}[1]{}  
  
\nextextramarks {\langle markset\rangle}  
33 \newcommand{\nexttopextramarks}[1]{}  
  
\outerextramarks {\langle markset\rangle}
```

```
34 \newcommand{\outerextramarks}[1]{}
```

```
\innerextramarks {⟨markset⟩}  
35 \newcommand{\innerextramarks}[1]{}
```

---

#### File 504 **l warp-titleref.sty**

##### § 612 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 505 **l warp-titlesec.sty**

##### § 613 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 \boolefalse{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{lwarp-titleps}
17 }{}


\titelabel {⟨label-format⟩}
18 \newcommand*{\titelabel}[1]{}

\titleformat* {⟨command⟩} {⟨format⟩}
\titleformat {⟨command⟩} [⟨shape⟩] {⟨format⟩} {⟨label⟩} {⟨sep⟩} {⟨before⟩} [⟨after⟩]
19 \newcommand\titleformat{%
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 o}{}

\chaptertitlename
24 \@ifundefined{@chapapp}{\let\@chapapp\chaptename}{}
25 \newcommand\chaptertitlename{@chapapp}

\titlespacing * {⟨command⟩} {⟨left⟩} {⟨before⟩} {⟨after⟩} [⟨right⟩]
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}

\titleline * [<align>] {<material>}
35 \NewDocumentCommand{\titleline}{s o m} {}

\titlerule [<height>]
36 \providecommand*\titlerule{@ifstar{\@ttitle@row}{\@ttitle@rule}}
37 \newcommand*{\@ttitle@rule}[1][]{}
38 \newcommand*{\@ttitle@row}[2][]{}

\iftitlemeasuring {<true>} {<false>}
39 \newcommand{\iftitlemeasuring}[2]{#2}

\assignpagestyle {<command>} {<pagestyle>}
40 \newcommand{\assignpagestyle}[2]{#2}

\titleclass {<name>} [<startlevel>] {<class>} [<cmd>]
41 \NewDocumentCommand{\titleclass}{m o m o} {}

```

---

### File 506 **lwarp-titletoc.sty**

#### § 614 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 lwarp-titletoc:

**for HTML output** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

```
\dottedcontents {<section>} [<left>] {<above>} {<label>} {<leader>}
2 \NewDocumentCommand{\dottedcontents}{m o m m m} {}
```

```
\titlecontents * {<section>} [<left>] {<above>} {<numbered>} {<numberless>} {<filler>} [<below or
begin>] [<separator>] [<end>]
3 \newcommand{\titlecontents}{\@ifstar{\@ttitle@tcstar}{\@ttitle@tcnostar}}
4 \NewDocumentCommand{\@ttitle@tcstar}{m o m m m o o o} {}
5 \NewDocumentCommand{\@ttitle@tcnostar}{m o m m m m o} {}
```

\contentsmargin [<correction>] {<right>}

```
6 \newcommand{\contentsmargin}[2][]{}

\thecontentslabel
7 \newcommand*{\thecontentslabel}{\thecontentslabel}

\thecontentspage
8 \newcommand*{\thecontentspage}{\thecontentspage}

\contentslabel [⟨format⟩] {⟨space⟩}
9 \newcommand{\contentslabel}[2][]{\thecontentslabel}

\contentspage [⟨format⟩]
10 \newcommand{\contentspage}[1][]{\thecontentspage}

\contentspush {⟨text⟩}
11 \newcommand{\contentspush}[1]{}

\contentsuse {⟨name⟩} {⟨text⟩}
12 \newcommand{\contentsuse}[2]{}

\startcontents [⟨name⟩]
13 \newcommand*{\startcontents}[1][]{}

\stopcontents [⟨name⟩]
14 \newcommand*{\stopcontents}[1][]{}

\resumecontents [⟨name⟩]
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][]{}
\nprintlist  [\langle name\rangle ] {\langle list\rangle } {\langle prefix\rangle } {\langle code\rangle }
20 \newcommand{\printlist}[4][]{}
```

---

**File 507 l warp-titling.sty****§ 615 Package titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

**package support** l warp 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.

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{\textsuperscript{\@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 \Rightarrow \thanksfootmark \Rightarrow \tamark \Rightarrow
\@thefnmark \Rightarrow \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 \DeclareDocumentCommand{\@maketitle}{}{%
58     \maketitlehooka
59     {
60         \LWR@stopars\LWR@htmltag{\LWR@tagtitle}%
61         \@bspretitle \@title \@bsposttitle%
62         \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
63     }
64     \maketitlehookb
65     {
66         \begin{BlockClass}{author}
67             \renewcommand{\and}{%
68                 \end{BlockClass}%
69                 \begin{BlockClass}{oneauthor}%
70             }
71             \begin{BlockClass}{oneauthor}%
72                 \@bspreauthor \@author \@bspostauthor%
73                 \end{BlockClass}%
74                 \end{BlockClass}%
75             }
76     \maketitlehookc
77     {
78         \begin{BlockClass}{titledate}%
79             \@bspredate \@date \@bspostdate%
80         \end{BlockClass}%
81     }
82     \maketitlehookd
83 }
```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
84 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
85 \LWR@stopars \@thanks \LWR@startpars
```

Select which kind of footnote marks to use:

```
86 \@bsmarkseries
```

Set up special patches:

```
87 \LWR@maketitlesetup
```

Typeset the title, etc:

```
88 \@maketitle
```

Immediately generate any \thanks footnotes:

```
89 \LWR@stopars \@thanks \LWR@startpars
```

Reset the footnote counter:

```
90 \@bscontmark
91 }
```

\thanksmarkseries \{*series*\}

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fn-symbol’, etc.

```
92 \renewcommand{\thanksmarkseries}[1]{%
93 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}}
94 }
```

Set default titlepage thanks footnote marks. See section 69.7.

```
95 \@ifclassloaded{memoir}{
96   \thanksmarkseries{arabic}
97 }{% not memoir
98 \@if@titlepage
99   \thanksmarkseries{arabic}
100 \else
101   \thanksmarkseries{fnsymbol}
102 \fi
103 }% not memoir
```

### File 508 **l warp-tocbasic.sty**

## § 616 Package **tocbasic**

(Emulates or patches code by MARKUS KOHM.)

Pkg tocbasic tocbasic is nullified for l warp.

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 509 **l warp-tocbibind.sty**

§ 617 Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

Pkg **tocbibind** **tocbibind** is patched for use by **l warp**.

**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 LATEX 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 \let\item\LWR@indexitem%
30 \let\subitem\LWR@indexsubitem%
31 \let\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 510 `l warp-tocdata.sty`**

§ 618      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   \ifempty{\TD@thistocdata}{}{%
4     \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}{%
5       \def\TD@thistocdata{}%
6     }%
7   }%
8 \renewrobustcmd{\tocdatapartprint}[4]%
9 {%
10   \InlineClass{authorartist}{%
11     \quad \qquad --- %
12     \TOptionalnameprint{\#1}\TOptionalnameprint{\#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\TD@TD@textalign{justify}%
24   \ifcsstring{\TD@#1align}{\centering}%
25     {\def\TD@TD@textalign{center}}%
26   {}%
27   \ifcsstring{\TD@#1align}{\raggedleft}%
28     {\def\TD@TD@textalign{right}}%
29   {}%
30   \ifcsstring{\TD@#1align}{\raggedright}%
31     {\def\TD@TD@textalign{left}}%
32   {}%
33 }%
34
35 \renewcommand{\TDArtistauthorprint}[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{\TDArtistauthortextprint}[2]{%
56   \LWR@TD@setnamealign{#1}%
57   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58   #2%
59   \end{BlockClass}%
60 }

```

---

#### File 511 **l warp-tocenter.sty**

##### § 619 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 512 **l warp-tocloft.sty**

##### § 620 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.

Discard all options for **l warp-tocloft**:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

⚠ **tocloft & other packages**

```
\tocloftpagestyle {⟨style⟩}
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} {}

\cftsetrmarg {<length>}
23 \DeclareDocumentCommand{\cftsetrmarg}{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{\cftpartindent}
28 \LWR@providelength{\cftpnumwidth}
29 \providecommand*\cftpartfont{}
30 \providecommand*\cftpartpresnum{}
31 \providecommand*\cftpartaftersnum{}
32 \providecommand*\cftpartaftersnumb{}
33 \providecommand*\cftpartleader{}
34 \providecommand*\cftpartdotsep{1}
35 \providecommand*\cftpartpagefont{}
36 \providecommand*\cftpartafterpnum{}

```

**memoir** uses the full name “chapter” instead of “chap”:

```

37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont{}
41 \newcommand*\cftchappresnum{}
42 \newcommand*\cftchapaftersnum{}
43 \newcommand*\cftchapaftersnumb{}

```

```
44 \newcommand*{\cftchapleader}{}  
45 \newcommand*{\cftchapdotsep}{1}  
46 \newcommand*{\cftchappagefont}{}  
47 \newcommand*{\cftchapafterpnum}{}  
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*{\cftsecpagefont}{}  
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*{\cftsubsecpagefont}{}  
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*{\cftsubsubsecpagefont}{}  
80 \newcommand*{\cftsubsubsecafterpnum}{}  
81 \LWR@providelength{\cftbeforeparaskip}  
82 \LWR@providelength{\cftparrayindent}  
83 \LWR@providelength{\cftparraynumwidth}  
84 \newcommand*{\cftparrayfont}{}  
85 \newcommand*{\cftparraypresnum}{}  
86 \newcommand*{\cftparrayaftersnum}{}  
87 \newcommand*{\cftparrayaftersnumb}{}  
88 \newcommand*{\cftparrayleader}{}  
89 \newcommand*{\cftparraydotsep}{1}  
90 \newcommand*{\cftparraypagefont}{}  
91 \newcommand*{\cftparrayafterpnum}{}  
92 \newcommand*{\cftparraydotsep}{1}
```

The following do not appear in memoir:

```
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*{\cftsubtableader}(){}
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 513 **lwarp-tocstyle.sty**§ 621 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 514 lwarf-todo.sty**

§ 622      Package **todo**

*(Emulates or patches code by FEDERICO GARCIA.)*

Pkg todo todo is patched for use by lwarf.

**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{lwarf-todo}{Unable to patch \@displaytodo.}}}
23
24 \xpatchcmd{\@displayfulltodo}
25     {\todoformat #1}{\todoformat \textbf{#1}}{%
26     {\PackageWarning{lwarf-todo}{Unable to patch \@displayfulltodo.}}}
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{%
29     {\PackageWarning{lwarf-todo}{Unable to patch todoenv.}}}
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{%
32     {\PackageWarning{lwarf-todo}{Unable to patch astodos.}}}
33
34 \AtBeginDocument{
35     \crefname{todo}{todo}{todos}
36     \Crefname{todo}{Todo}{Todos}
37 }
```

---

File 515 **l warp-todonotes.sty**

§ 623 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 516 **lwarf-topcapt.sty**§ 624 Package **topcapt**

Pkg topcapt **topcapt** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro{\topcaption}{\caption}

---

**File 517 l warp-tram.sty****§ 625 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 518 l warp-transparent.sty****§ 626 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 519 l warp-trimclip.sty****§ 627 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 520 l warp-trivfloat.sty****§ 628 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}{}{}}
```

### § 628.1 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 521 `l warp-truncate.sty`

#### § 629 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 522 `l warp-turnthepage.sty`

#### § 630 Package `turnthepage`

Pkg `turnthepage` `turnthepage` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

```
2 \newcommand{\turnthepage}{}%
```

---

File 523 **l warp-twoup.sty**

§ 631 Package **twoup**

Pkg twoup twoup is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]  
2 \newcommand{\cleartolastpage}{}

---

File 524 **l warp-txfonts.sty**

§ 632 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 525 **l warp-txgreeks.sty**

§ 633 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 526 **l warp-typearea.sty**

§ 634 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 527 l warp-typicons.sty****§ 635 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 528 l warp-ulem.sty****§ 636 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 529 **l warp-umoline.sty**

§ 637 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 530 **lwarp-underscore.sty**

§ 638 Package **underscore**

Pkg underscore underscore is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

---

File 531 **lwarp-unicode-math.sty**

§ 639 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 `\symsfsf` 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}\% \symbfup 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\symsfup}}
61     {
62         \bool_if:NTF \g__um_upsans_bool
63             {\CustomizeMathJax{\let\symsf\symsfup}}
64             {\CustomizeMathJax{\let\symsf\symsfit}}
65     }
66 }
67 \ExplSyntaxOff

68 \% \CustomizeMathJax{\let\symbfsup\mathbf}\% not sans
69 \% \CustomizeMathJax{\let\symsfit\mathit}\% not sans
70 \% \CustomizeMathJax{\let\symbfsfit\mathit}\% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 \% \CustomizeMathJax{\let\symbb\mathbb}
73 \% \CustomizeMathJax{\let\symbbit\mathbb}\% not italic
74 \% \CustomizeMathJax{\let\symscr\mathscr}
75 \% \CustomizeMathJax{\let\symbfscr\mathscr}\% not bold
76 \% \CustomizeMathJax{\let\sympfrak\mathfrak}
77 \CustomizeMathJax{\let\symbffrac\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{\vertoverlay}{[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{\oiint}{\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 532 lwarf-units.sty

## § 640 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 533 **lwarp-unitsdef.sty**

## § 641 Package **unitsdef**

*(Emulates or patches code by PATRICK HAPPEL.)*

Pkg unitsdef unitsdef is patched for use by lwarps.

**for HTML output:** 1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

```

2 \renewcommand{\unitvaluesep}{\,}
3
4 \renewcommand{\unitittimes}{\@setunit{false}\HTMLunicode{22c5}}% \cdot
5
6 \renewunit{\arcmin}{%
7   \ifnumcomp{\value{LWR@Lateximagedepth}}{>}{0}{%
8     {\ensuremath{{}^{\prime}}}% prime
9     {\HTMLunicode{2032}}% prime
10 }%
11
12 \renewunit{\arcsec}{%

```

```
13 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
14   {\ensuremath{{}^{\prime\prime}\prime\prime}}%
15   {\HTMLunicode{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 534 l warp-upgreek.sty****§ 642 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 \LWR@origRequirePackage{l warp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{upgreek}
6
7 \LWR@mathjax@addgreek@l@up{up}{}
8 \LWR@mathjax@addgreek@u@up{Up}{}
9
10 \end{warpMathJax}
```

---

**File 535 l warp-upref.sty****§ 643 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 536 l warp-url.sty**

§ 644 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 537 l warp-ushort.sty**

§ 645 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]{\ushortdline{{#1}}}}  
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{{#1}}\kern{.1em}}}  
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortd{{#1}}}}  
10 \end{warpMathJax}

---

---

**File 538 l warp-uspace.sty**

§ 646 Package **uspace**

Pkg uspace uspace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{uspace}[2016/11/06]

---

**File 539 l warp-varioref.sty****§ 647 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\ref{textfaceafter {\unskip}%
3 \def\ref{textfacebefore{\unskip}%
4 \def\ref{textafter {\unskip}%
5 \def\ref{textbefore {\unskip}%
6 \def\ref{textcurrent {\unskip}%
7 \def\ref{textfaraway#1{\unskip}%
8 \def\ref{textpagerange#1#2{\unskip}%
```

---

**File 540 l warp-verse.sty****§ 648 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 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 `\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 541 lwarp-*versonotes*.sty****§ 649 Package *versonotes***

(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 542 lwarp-*vertbars*.sty****§ 650 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 543 **l warp-vmargin.sty**

§ 651 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][]{{\ifstrequal{#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 544 **l warp-vowel.sty**

§ 652 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 545 **l warp-vpe.sty**

§ 653 Package **vpe**

Pkg vpe vpe is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

---

File 546 **l warp-vwcol.sty**

§ 654 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}
1 \newcommand*{\LWR@vwcol@addrule}[1]{%
2   \appto{\LWR@vwcolstyle}{%
3     #1: %
4     \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
5   }%
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 547 **lwarp-wallpaper.sty**

## § 655 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 548 l warp-watermark.sty****§ 656 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 549 l warp-widetable.sty****§ 657 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 550 l warp-widows-and-orphans.sty****§ 658 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\Wa0setup{m}{}
3 \NewDocumentCommand\Wa0parameters{}{{}}
4 \NewDocumentCommand\Wa0ignorenext{}{{}}
```

---

**File 551 l warp-witharrows.sty**

§ 659      Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

Pkg **witharrows** **witharrows** is patched for use by **l warp**. Emulation is provided for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

```
2 \ifbool{mathjax}{  
3     % For the hidden print version in the HTML:  
4     \newcommand{\Arrow}[2][]{  
5     \newcommand{\unicode}[1]{  
6     \NewDocumentEnvironment { DispWithArrows } { ! d < > ! O { } +b }  
7         {  
8             \IfValueTF{#1}{  
9                 \begin{displaymath}  
10                 #1 \left\{  
11                 \begin{aligned}  
12                 #3  
13                 \end{aligned}  
14                 \right.  
15                 \end{displaymath}  
16             }{  
17                 \begin{displaymath}  
18                 \begin{aligned}  
19                 #3  
20                 \end{aligned}  
21                 \end{displaymath}  
22             }  
23         }  
24     {}  
25     \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! O { } +b }  
26     {  
27         \IfValueTF{#1}{  
28             \begin{displaymath}  
29             #1 \left\{  
30             \begin{aligned*}  
31             #3  
32             \end{aligned*}  
33             \right.  
34             \end{displaymath}  
35         }{  
36             \begin{displaymath}  
37             \begin{aligned*}  
38             #3  
39             \end{aligned*}  
40             \end{displaymath}  
41         }  
42     }
```

---

```

43      {}
44 }{
45   % If not MathJax, use SVG images.
46   \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
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 552 **l warp-wrapfig.sty**

## § 660 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}{0}%
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 553 l warp-xbmks.sty****§ 661 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 554 l warp-xcolor.sty****§ 662 Package xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by l warp.

**§ 662.1 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.

## § 662.2 **xcolor definitions: location and timing**

The `lwarp` core and its `lwarp-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 `lwarp-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 `lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 556.

### `\color:`

**Print:** Used as-is.

**HTML:** Ignored by `pdftotext`, and will not appear.

**HTML `lateximage`:** Colors will appear in a `lateximage`.

### `\textcolor:`

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page 1266.

**HTML `lateximage`:** Remembers and reuses the print version.

### `\pagecolor:`

**Print:** Used as-is.

**HTML:** Ignored.

**HTML `lateximage`:** Colors will be picked up in a `lateximage`.

### `\nopagecolor:`

**Print:** Used as-is.

**HTML:** Ignored.

**HTML `lateximage`:** Colors will be picked up in a `lateximage`.

**\colorbox:**

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page [1266](#).

**HTML `lateximage`:** Remembers and reuses the print version.

**\colorboxBlock:**

**Print:** Becomes `\colorbox`.

**HTML:** Newly defined by `lwarp-xcolor` to use a `<div>`, page [1267](#).

**HTML `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 [1267](#).

**HTML `lateximage`:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes `\fcolorbox`. Section [89](#)

**HTML:** Newly defined by `lwarp-xcolor` to use a `<div>`, page [1268](#).

**HTML `lateximage`:** Remembers and reuses the print version `\fcolorbox`.

**fcolorminipage:**

**Print:** Newly defined in the `lwarp` core.

`\LWR@print\fcolorminipage` at section [89](#)

**HTML:** Newly defined by `lwarp-xcolor`, page [1269](#).

**HTML `lateximage`:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page [1270](#).

**HTML `lateximage`:** Remembers and reuses the print version.

### § 662.3 Package loading

for HTML output: 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]

### § 662.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `lateximage` environment:

```
2 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}
3 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}
```

`\LWR@restoreorigformatting` Inside a `lateximage` 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 }
```

### § 662.5 `\normalcolor`

`\normalcolor`

```
8 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
9
10 \LWR@formatted{normalcolor}
```

### § 662.6 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 }
```

`\LWR@currenttextcolorstyle` Prints a color style for the current color.

```
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 {*1: model*} {*2: 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 }

```

## § 662.7 **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 }

```

## § 662.8 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 }%
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}{O{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 }
89
90 \AtBeginDocument{%
91     \LWR@formatted{colorbox}%
92 }
```

\colorboxBlock [<model>] {<color>} {<text>}

Converted into an HTML hex background color <div>.

```

93 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
94 \begingroup%
95 \LWR@hook@processingtags%  

96 \LWR@stopars%
97 \begin{BlockClass}[%  

98 background:\LWR@colorstyle{#1}{#2} ; %
99 padding:\LWR@printlength{\fboxsep}%
100 ]{colorboxBlock}%
101 #3
102 \end{BlockClass}%
103 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

104 \global\booltrue{\LWR@minipagethispar}%
105 }
106
107 \AtBeginDocument{%
108     \LWR@formatted{colorboxBlock}%
109 }
```

\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.

```

110 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
111 \LWR@traceinfo{HTML fcolorbox #2 #4}%
112 \begingroup%
113 \LWR@hook@processingtags%
114 \LWR@forceminwidth{\fboxrule}%
115 \ifthenelse{\equal{#4}{none}}{%
116     {%
117         \InlineClass[%
118             \LWR@borderpadding{#1}{#2}%
119             ]{fcolorbox}{#5}%
120     }%
121     {%
122         \InlineClass[%
123             \LWR@borderpadding{#1}{#2} ; %
124             background:\LWR@colorstyle{#3}{#4}%
125             ]{fcolorbox}{#5}%
126     }%
127 \endgroup%
128 }
129
130 \AtBeginDocument{%
131     \LWR@formatted{fcolorbox}%
132 }

```

\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.

```

133 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m}{%
134 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
135 \begingroup%
136 \LWR@hook@processingtags%
137 \LWR@forceminwidth{\fboxrule}%

138 \LWR@stopars%

139 \ifthenelse{\equal{#4}{none}}{%
140     {%
141         \begin{BlockClass}[%
142             \LWR@borderpadding{#1}{#2}%
143             ]{fcolorboxBlock}%
144             #5
145         \end{BlockClass}%
146     }%
147     {%
148         \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
149         \begin{BlockClass}[%
150             background:\LWR@origpound\LWR@tempcolortwo\ ; %
151             \LWR@borderpadding{#1}{#2}%
152             ]{fcolorboxBlock}%
153             #5

```

```

154         \end{BlockClass}%
155     }%
156 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

157 \global\booltrue{LWR@minipagethispar}%
158 \LWR@traceinfo{HTML fcolorboxBlock done}%
159 }
160
161 \AtBeginDocument{
162     \LWR@formatted{fcolorboxBlock}%
163 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the **lwarp** core: section 89

```

\LWR@subfcolorminipage  {\langle framemodel\rangle} {\langle framecolor\rangle} {\langle background tag\rangle} {\langle height\rangle}
164 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
165 \LWR@stoppars%
166 \begin{BlockClass}[%#
167 #3%
168 \LWR@borderpadding{\#1}{\#2} ; %
169 \IfValueT{\#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
170 width:\LWR@printlength{\LWR@tempwidth}%
171 ]{\fcolorminipage}%
172 }

Env  fcminipage  [\langle 1:framemodel\rangle] [\langle 2:framecolor\rangle] [\langle 3:boxmodel\rangle] {\langle 4:boxcolor\rangle} [\langle 5:align\rangle] [\langle 6:height\rangle]
      [\langle 7:inner-align\rangle] {\langle 8:width\rangle}

173 \NewDocumentEnvironment{\LWR@HTML@fcminipage}{O{named} m O{\#1} m O{c} o o m}
174 {%
175 \LWR@hook@processingtags%
176 \setlength{\LWR@tempwidth}{\#8}%
177 \IfValueT{\#6}{\setlength{\LWR@tempheight}{\#6}}%
178 \LWR@forceminwidth{\fboxrule}%
179 \convertcolorspec{\#1}{\#2}{HTML}\LWR@tempcolor%
180 \ifthenelse{\equal{\#4}{none}}{%
181     {\LWR@subfcolorminipage{\#1}{\#2}{\#6}}%
182     {%
183         \convertcolorspec{\#3}{\#4}{HTML}\LWR@tempcolortwo%
184         \LWR@subfcolorminipage{\#1}{\#2}{%
185             {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
186             {\#6}}%
187     }%
188 }%
189 {%
190     \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
191     \global\booltrue{LWR@minipagethispar}%
192 }
193
194 \AtBeginDocument{
195 \LWR@formattedenv{fcolorminipage}
196 }
```

\boxframe {*width*} {*height*} {*depth*}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```
197 \newcommand*{\LWR@HTML@boxframe}[3]{%
198 {%
199 \setlength{\LWR@tempwidth}{#1}%
200 \setlength{\LWR@tempheight}{#2}%
201 \addtolength{\LWR@tempheight}{#3}%
202 \LWR@forceminwidth{\fboxrule}%
203 \LWR@findcurrenttextcolor%
204 \InlineClass[%%
205 display:inline-block ; %
206 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
207 width:\LWR@printlength{\LWR@tempwidth} ; %
208 height:\LWR@printlength{\LWR@tempheight}%
209 ]{\boxframe}{}%
210 }%
211 }
212
213 \LWR@formatted{boxframe}
```

## § 662.9 Row colors

```
\rowc@l@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}
214 \newcommand*{\LWR@xcolortempcolor}{}%
215
216 \def\rowc@l@rs[#1]#2#3#4%
217 {
218 \rownum=1%
219   \rowcolorstrue%
220   \ifxempty{#3}%
221     {\def\@oddrowcolor{\norowcolor}}%
222     {%
223       \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
224       \edef\@oddrowcolor{%
225         \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
226       }%
227     }%
228   \ifxempty{#4}%
229     {\def\@evenrowcolor{\norowcolor}}%
230     {%
```

```

231      \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
232      \edef\@evenrowcolor{%
233          \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
234      }%
235  }%
236 \if@rowcmd
237     \def\@rowcolors
238     {%
239 %         #1%
240         \if@rowcolors
241 %             \noalign{%
242                 \relax\ifnum\rownum<#2\@norowcolor\else
243                 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
244 %             }%
245             \fi%
246         }%
247     \else
248     \def\@rowcolors
249     {%
250         \if@rowcolors
251             \ifnum\rownum<#2%
252 %                 \noalign{%
253                 \@norowcolor
254 %             }
255             \else
256 %                 #1%
257 %                 \noalign{%
258                 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
259 %             }%
260             \fi
261         \fi%
262     }%
263     \fi
264     \ignorespaces%
265 }

```

\@norowcolor    Turns off color for this row.

```

266 \def\@norowcolor{%
267 \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
268 }

```

\@rowc@lors    Executed at the end of each row.

```

269 \def\@rowc@lors{%
270 %     \noalign{%
271         \advance\rownum\@ne%
272 %     }%
273     \@rowcolors%
274 }

```

---

**File 555 l warp-xexchangebar.sty****§ 663 Package xexchangebar**

Pkg xexchangebar xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{l warp-changebar}

---

**File 556 l warp-xellipsis.sty****§ 664 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 557 **l warp-xetexko.sty**

§ 665 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}[2021/03/22]

4 \renewcommand{\verticaltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}
```

---

File 558 **l warp-xevlna.sty**

§ 666 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 559 **l warp-xfakebold.sty**

§ 667 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 `lateXimages`. 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][]{\LWR@setBold{#1}}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}{\LWR@unsetBold{}}}
14 \end{warpMathJax}

```

## File 560 l warp-xfrac.sty

### § 668 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]

In the user's document preamble, `l warp` should be loaded after font-related setup.  
⚠ **font size** 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 `lateximage`, 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\}_{\LWRsfracdenominator\!#2}}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{\#2}\LWRsfrac}}
69 \end{warpMathJax}

```

---

File 561 **l warp-xltabular.sty**

§ 669 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT Voss.)

Pkg xltabular xltabular is emulated by l warp.

**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 562 **l warp-xltxttra.sty**

§ 670      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   \textsuperscript{#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 563 **l warp-xmpincl.sty**

§ 671      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 564 l warp-xpiano.sty****§ 672 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 565 l warp-xpinyin.sty****§ 673 Package xpinyin***(Emulates or patches code by SOBEN LEE.)***Pkg** xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sidetoc, 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>, <rb>, and <rt> 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 [nnn] #1#2#3
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:nnn}
18
19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20 {
21     \__xpinyin_leavevmode:
22     \LWR@htmltagc{ruby}
23     \LWR@htmltagc{rb}
24     \__xpinyin_save_CJKsymbol:n [#2]\null% \null removes extra space
25     \LWR@htmltagc{/rb\space}
26     \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
27     \LWR@htmltagc{rt}
28     \__xpinyin_make_pinyin_box:nnn [#1] [#2] { \use:c { c_xpinyin_ #1 _tl } }
29     \LWR@htmltagc{/rt\space}
30     \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
31     \LWR@htmltagc{/ruby\space}\null
32 }
33 \LWR@formatted{__xpinyin_CJKsymbol:nn}
34
35 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
36 {
37     \__xpinyin_leavevmode:
38     \LWR@htmltagc{ruby}
39     \LWR@htmltagc{rb}
40     \__xpinyin_save_CJKsymbol:n [#1]\null% \null removes extra space
41     \LWR@htmltagc{/rb\space}
42     \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
43     \LWR@htmltagc{rt}
44     \__xpinyin_make_pinyin_box:xnn
45     { \__xpinyin_to_unicode:n [#1] } [#1] { \__xpinyin_pinyin:n [#2] }
46     \LWR@htmltagc{/rt\space}
47     \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
48     \LWR@htmltagc{/ruby\space}\null
49 }
50 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
51
52 \ExplSyntaxOff
```

The `lwarp` core uses the following to disable CJK `xpinyin` for filenames, sideroc, and footnotes.

```
53 \renewcommand*\LWR@disablepinyin}{\disablepinyin}
54
55 \FilenameNullify{\LWR@disablepinyin}
```

---

**File 566 l warp-xr.sty****§ 674 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 567 l warp-xr-hyper.sty****§ 675 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 568 l warp-xtab.sty****§ 676 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.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

```
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 569 **l warp-xunicode.sty**

§ 677 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after l warp.

Patch l warp-xunicode, but also verify that is was loaded before l warp:

**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 570 **l warp-xurl.sty**

§ 678 Package **xurl**

Pkg xurl xurl is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

---

File 571 **l warp-xy.sty**

§ 679 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@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 572 **l warp-zhlineskip.sty**

§ 680 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 573 **l warp-zwpagelayout.sty**

§ 681 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{grblk}{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{rgbred}{rgb}{1,0,0}
15  \definecolor{rgbgreen}{rgb}{0,1,0}
16  \definecolor{rgbblue}{rgb}{0,0,1}
17 %   \ifzwpl@redefinecmyk
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{#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 574 **l warp-patch-komascript.sty**

§ 682 Package **patch-komascript**

Pkg l warp-patch-komascript Patches for komascript classes.

l warp 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{lwarp-patch-komascript}

`typearea` is emulated.

2 \RequirePackage{lwarp-typearea}

`tocbasic` is emulated.

3 \RequirePackage{lwarp-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarp-scrextend}

## Indexing macros, simplified for lwarps:

```
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   \let\item\LWR@indexitem%  
15   \let\subitem\LWR@indexsubitem%  
16   \let\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}{\begin{BlockClass}{minisec}\\#1\\end{BlockClass}}\\}
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 575 **lwarf-patch-memoir.sty**

§ 683 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

Pkg lwarf-patch-memoir Patches for **memoir** class.

⚠ Not fully tested! Please send bug reports!

lwarf loads this package when the **memoir** class is detected.

**⚠ captions** lwarf uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

**⚠ options clash** While emulating `memoir`, lwarf pre-loads a number of packages (section 683.1). 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}
```

**⚠ 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 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.

**⚠ 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** lwarf 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` prints 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 `lwarpmk`. 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{lwarp-patch-memoir}

### § 683.1 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 lwarp is directly loading the "lwarp-" version of each, which happens to avoid memoir's emulation system.

```
2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-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{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd
```

## § 683.2 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}%           l warp
45     \protected@write\@auxout{}{%
46       \string\newlabel{sub@\#1}%
47       {{\@nameuse{@thesub@\capttype}}%%
48       {\thepage}}}%
49     \LWR@write@lwarplabel{sub@\#1}%           l warp
50     \@esphack
51   }
52 }
```

### § 683.3 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]{}{}
```

#### § 683.4 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(){}

```

### § 683.5 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{\thanksmarkssep} already provided by memoir
239 \renewcommand\titlingpageend[2]{}

```

### § 683.6 Abstracts

```

240 % \newlength{\absindent}
241 % \newlength{\absparsep}
242 \renewcommand*\abstractcol(){}
243 \renewcommand*\abstractintoc(){}
244 \renewcommand*\abstractnum(){}
245 \renewcommand*\abstractrunin(){}

```

### § 683.7 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]{}

```

### § 683.8 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}{3}{}}
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}{}

```

### § 683.9 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 \let\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}\qquad%
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} {}

```

### § 683.10 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{\totheadstart} {}
502 \renewcommand{\printtotoitle}[1] {}
503 \renewcommand{\tocmark} {}
504 \renewcommand{\aftertotoitle} {}
505 \renewcommand{\lofheadstart} {}
506 \renewcommand{\printloftitle}[1] {}
507 \renewcommand{\lofmark} {}
508 \renewcommand{\afterloftitle} {}
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{\cftchaptnumwidth}  
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{\cftbeforesections skip}  
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{\cftbeforesubsections skip}
```

```
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{\cftpaginwidth}
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{\cftbeforetableskip}
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{\cftbeforesubtableskip}
660 % \newlength{\cftsubtableindent}
661 % \newlength{\cftsubtablenumwidth}
662 \newcommand*{\cftsubtablefont}{}
663 \newcommand*{\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]{}%

```

### § 683.11 Floats and captions

\@xfloat

@xdblfloat 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 }{% not recursive name
719   \IfValueTF{#1}%
720     {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
721     {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
722 }%

```

`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` [*<within>*] {*<type>*} {*<ext>*} {*<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 `lwarf` 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 }%
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, \flegtoctable, \flegtocfigure are defined by memoir using \newfloat. These are defined with an @ in \caption.

```
774 \renewcommand{\fleitable}{\tablename}
775 \renewcommand{\flegfigure}{\figurename}
776 \renewcommand{\flegtoctable}={}
777 \renewcommand{\flegtocfigure}={}

778 \renewcommand{\@makesubfloatcaption}[2]{%
779   \minipagefullwidth
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{@cattyp}{-1}}%
817     \caption{#1}%

```

Without \@cattyp, the section is referred to instead.

```
818     \IfValueT{#2}{\label[\@cattyp]{#2}}%
819 }
```

\sidenamedlegend does not appear to use the toc argument.

```
820 \renewenvironment{sidenamedlegend}[2][]{
821     \begin{center}
822     \nameuse{@cattyp 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 }
```

### § 683.12 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}}{%

```

	original
	l warp
	l warp

```

944           [pagenote][\@secondoftwo#1][]@\firstoftwo#1%    lwarp
945           }%
946   }{}%
947   \pagenoteanchor{#4}%
948   \pageinnotes{#3}%
949   \prenotetext%
950 }
```

### § 683.13 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{}
```

### § 683.14 Poetry

```

957 \renewcommand*\vinphantom(){}
958 \renewcommand*\vleftofline}[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){}
```

### § 683.15 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*\{\verb|atimindent}\{}{}\}
990 \renewcommand*\{\verb|atimbreakchar}\}[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*\{\verb|b vbox}\{}{}\}
993 \renewcommand*\{\verb|b topandtail}\{}{}\}
994 \renewcommand*\{\verb|b vsides}\{}{}\}
995 \renewcommand*\{\verb|nob vbox}\{}{}\}
996 % \newlength\verb|b vboxsep
```

- 997 \renewcommand\*\{\verb|b toprulehook}\{}{}\}
- 998 \renewcommand\*\{\verb|b topmidhook}\{}{}\}
- 999 \renewcommand\*\{\verb|b vendlrulehook}\{}{}\}
- 1000 \renewcommand\*\{\verb|b vleftsidehook}\{}{}\}
- 1001 \renewcommand\*\{\verb|b vrightsidehook}\{}{}\}
- 1002 \renewcommand\*\{\verb|b vperpage true}\{}{}\}
- 1003 \renewcommand\*\{\verb|b vperpage false}\{}{}\}
- 1004 \renewcommand{\verb|b vtopofpage}[1]\{}{}\}
- 1005 \renewcommand{\verb|b vendofpage}[1]\{}{}\}
- 1006 \renewcommand\*\{\verb|linenumberfrequency}[1]\{}{}\}
- 1007 \renewcommand\*\{\verb|resetb vlinenumber}\{}{}\}
- 1008 \renewcommand\*\{\verb|setb vlinenums}[2]\{}{}\}
- 1009 \renewcommand\*\{\verb|linenumberfont}[1]\{}{}\}
- 1010 \renewcommand\*\{\verb|b vnumbersinside}\{}{}\}
- 1011 \renewcommand\*\{\verb|b vnumbersoutside}\{}{}\}

## § 683.16 Cross referencing

```

1012 \renewcommand*\{\verb|\ref}[1]\{\verb|\cref\#1}\}}
1013 \renewcommand*\{\verb|\tref}[1]\{\verb|\cref\#1}\}}
1014 \renewcommand*\{\verb|\pref}[1]\{\verb|\cpageref\#1}\}}
1015 \renewcommand*\{\verb|\Aref}[1]\{\verb|\cref\#1}\}}
1016 \renewcommand*\{\verb|\Bref}[1]\{\verb|\cref\#1}\}}
1017 \renewcommand*\{\verb|\Pref}[1]\{\verb|\cref\#1}\}}
1018 \renewcommand*\{\verb|\Sref}[1]\{\verb|\cref\#1}\}}
1019 \renewcommand*\{\verb|\figurerefname}{Figure}
1020 \renewcommand*\{\verb|\tablerefname}{Table}
1021 \renewcommand*\{\verb|\pagerefname}{page}
1022 \renewcommand*\{\verb|\bookrefname}{Book~}
1023 \renewcommand*\{\verb|\partrefname}{Part~}
1024 \renewcommand*\{\verb|\chapterrefname}{Chapter~}
1025 \renewcommand*\{\verb|\sectionrefname}{\S}
1026 \renewcommand*\{\verb|\appendixrefname}{Appendix~}
1027 \LetLtxMacro\titleRef\nameref
1028 \renewcommand*\{\verb|\headnameref}\{}{}\}
1029 \renewcommand*\{\verb|\tocnameref}\{}{}\}
1030
1031 \providecounter{LWR@currenttitle}
1032
1033 \renewcommand*\{\verb|\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}{}

```

### § 683.17 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@m{\@idxfile}{#1}{\thepage}}%
1050         \string@\@wrindexm@m{\@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@m{\@idxfile}{#1}{\@nameuse{the\@sptheidx}}}%
1059         \string@\@wrindexm@m{\@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@filesw
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 \renewcommand*\xindyindex{}%
```

### § 683.18 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][]{\{}{}\}

```

### § 683.19 **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, \flegfigure, \flegtoctable, \flegtocfigure 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=\memsublabel
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@tightsubcap
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@skip}%
1243 %     \def\subfig@bottom{\subfloat@bottomskip}%
1244 %   \else
1245 %     \def\subfig@top{\subfloat@bottomskip}%
1246 %     \def\subfig@bottom{\subfloat@skip}%
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}%      lwarp
1257   \bgroup
1258   \ifcase\@tempcnta
1259     \minipagetrue
1260   \or
1261     \vspace{\subfig@top}
1262   \or
1263     \ifdim\lastskip=z@ \else
1264       \tempskipb\subfig@top\xaddvskip
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\subfloatcaptionadj
1279     \fi\egroup
1280     #4% \box\@tempboxa
1281   \fi
1282 %   \vspace{\subfig@bottom}
1283 \end{minipage}%
1284 \LWR@startpars%
1285 \egroup
1286 \egroup
1287 }

```

### § 683.20 Final patchwork

```

1288 \newlistof{tableofcontents}{toc}{\contentsname}
1289 \newlistof{listoffigures}{lof}{\listfigurename}
1290 \newlistof{listoftables}{lot}{\listtablename}

```

---

File 576 **lwarp-common-multimedia.sty**

### § 684 Package **common-multimedia**

Pkg lwarp-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.

`\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 \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         {\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@stopars
```

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@orignewline
```

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@stopars
```

Finish.

```
55 \LWR@htmltag{/#3}\LWR@orignewline
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@stoppars
```

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@newline

```

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@stoppars

```

Finish.

```

84      \LWR@htmltag{/#3}\LWR@newline
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@multimediab.

```

\LWR@multimedia@percenterror
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@multimediab [⟨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@multimediab}[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}%
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 577 **lwarp-common-mathjax-letters.sty**

## § 685 Package **common-mathjax-letters**

**Pkg** Common code used by a number of packages to generate Greek math characters for MATHJAX.  
**lwarp-common-mathjax-letters**

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {\langle 2: capitalize name? \rangle} {\langle 3: prefix \rangle} {\langle 4: postfix \rangle} {\langle 5: name \rangle} {\langle 6: unicode \rangle}

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}%

```

\LWR@mathjax@addgreek@l@up

```

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}

```

\LWR@mathjax@addgreek@u@up

\LWR@mathjax@addgreek@l@it

```

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}
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>}

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@bfup is not needed.

\* {<2: prefix>} {<3: postfix>}

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*}

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 578 **lwarp-common-mathjax-newpxtxmath.sty**

## § 686 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

```



```
68 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
69 \CustomizeMathJax{\newcommand{\oint}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
70 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
71 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
72 \CustomizeMathJax{\newcommand{\ointctr-clockwise}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
73 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
74 \CustomizeMathJax{\newcommand{\fint}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
75 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
76 %
77 \CustomizeMathJax{\let\intsl\int}
78 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
79 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
80 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
81 \CustomizeMathJax{\let\ointsl\oint}
82 \CustomizeMathJax{\newcommand{\ointsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
83 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
84 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
85 \CustomizeMathJax{\newcommand{\ointctr-clockwisesl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
86 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
87 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
88 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
89 %
90 \CustomizeMathJax{\let\intup\int}
91 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
92 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
93 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
94 \CustomizeMathJax{\let\ointup\oint}
95 \CustomizeMathJax{\newcommand{\ointup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
96 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
97 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
98 \CustomizeMathJax{\newcommand{\ointctr-clockwiseup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
99 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
100 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
101 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
102 %
103 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
104 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
105 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
106 %

107 %
108 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}\limits{}}}
109 \CustomizeMathJax{\let\varprod\bigtimes}
110 %

111 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}}}
112 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
113 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}}}
114 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}}}
115 %
116 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}}}
117 \CustomizeMathJax{\let\Mapstochar\Mapsto}
118 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}}}
119 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\text{\kern-0.1em\text{\kern-0.1em\kern-0.1em}\kern-0.1em}}}}
```

```
120 \CustomizeMathJax{\let\Mapedfromchar\Mapedfrom}
121 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x2906}}}}
122 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
123 %

124 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x25CB}}}}
125 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
126 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
127 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
128 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}}}
129 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\LWRoverlaysymbols{-}{\unicode{x244A}}}}}
130 %

131 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
132 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
133 %
134 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

135 %
136 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
137 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
138 %
139
140 \CustomizeMathJax{\newcommand{\npresim}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0227E}}}}}
141 \CustomizeMathJax{\newcommand{\nsuccsim}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0227F}}}}}
142 \CustomizeMathJax{\newcommand{\nlesssim}{\mathrel{\unicode{x02274}}}}
143 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
144 %

145 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
146 \CustomizeMathJax{\newcommand{\nupset}{\mathrel{\unicode{x02285}}}}
147 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
148 \CustomizeMathJax{\let\notowns\notni}
149 %
150 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02A85}}}}}
151 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x02A86}}}}}
152 %
153 \CustomizeMathJax{\newcommand{\npreeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0227C}}}}}
154 \CustomizeMathJax{\newcommand{\nsuccq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0227D}}}}}
155 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
156 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
157 \CustomizeMathJax{\newcommand{\nbumpeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224F}}}}}
158 \CustomizeMathJax{\newcommand{\nBumpeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0224E}}}}}
159 %
160 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x0223D}}}}}
161 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x022CD}}}}}
162 \CustomizeMathJax{\newcommand{\nasymp}{\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{\nsqsubseteq}{\mathrel{\{unicode{x022E2}\}}}}
181 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\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{\#1}}}}}}
203 %
204 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
205 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\{unicode{x2022}\}}}}
206 \CustomizeMathJax{\newcommand{\circS}{\mathord{\boldsymbol{\circ}}}}
207 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
208 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\{unicode{x025CF}\}}}}
209 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\{unicode{x02B24}\}}}}
210 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
211 %
212 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\{unicode{x0214B}\}}}}}

```

`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{\lrcJoin}{\mathrel{\unicode{x2A1D}}}}
221
222 \CustomizeMathJax{\newcommand{\lrltimes}{\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{\varspadesuit}{\mathord{\unicode{x02664}}}}
240
241 \CustomizeMathJax{\newcommand{\Narrowarrow}{\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\varmathbb\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{unicode{x25FD}}}}}}
277 \CustomizeMathJax{\let\textsquare\openbox}

278 \CustomizeMathJax{\let\varepsilonemptyset\emptyset}
279 %
280 % for newpxmath:
281 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\text{\scriptsize \texttt{unicode{x000A3}}}}}}
282 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\text{\scriptsize \texttt{unicode{x000A2}}}}}}
283
284 \end{warpMathJax}

```

---

File 579 **l warp-common-mathjax-nonunicode.sty**

§ 687      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{unicode{x021A6}}}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\text{\scriptsize \texttt{unicode{x021A6}}}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\text{\scriptsize \texttt{unicode{x021A4}}}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\text{\scriptsize \texttt{unicode{x021A4}}}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}%
  from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}%
  from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\text{\scriptsize \texttt{unicode{x02907}}}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\text{\scriptsize \texttt{unicode{x027FE}}}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\text{\scriptsize \texttt{unicode{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{\!unicode{x025C7}\!\!unicode{x02192}}}}
29 \CustomizeMathJax{\newcommand{\Diamondleft}{\mathrel{\!unicode{x02190}\!\!unicode{x025C7}}}}
30 \CustomizeMathJax{\newcommand{\Diamonddotright}{\mathrel{\!unicode{x027D0}\!\!unicode{x02192}}}}
31 \CustomizeMathJax{\newcommand{\Diamonddotleft}{\mathrel{\!unicode{x02190}\!\!unicode{x027D0}}}}
32
33 \CustomizeMathJax{\newcommand{\boxRight}{\mathrel{\!unicode{x025A1}\!\!unicode{x021D2}}}}
34 \CustomizeMathJax{\newcommand{\boxLeft}{\mathrel{\!unicode{x021D0}\!\!unicode{x025A1}}}}
35 \CustomizeMathJax{\newcommand{\boxdotRight}{\mathrel{\!unicode{x022A1}\!\!unicode{x021D2}}}}
36 \CustomizeMathJax{\newcommand{\boxdotLeft}{\mathrel{\!unicode{x021D0}\!\!unicode{x022A1}}}}
37
38 \CustomizeMathJax{\newcommand{\DiamondRight}{\mathrel{\!unicode{x025C7}\!\!unicode{x021D2}}}}
39 \CustomizeMathJax{\newcommand{\DiamondLeft}{\mathrel{\!unicode{x021D0}\!\!unicode{x025C7}}}}
40 \CustomizeMathJax{\newcommand{\DiamonddotRight}{\mathrel{\!unicode{x027D0}\!\!unicode{x021D2}}}}
41 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{\mathrel{\!unicode{x021D0}\!\!unicode{x027D0}}}}
42 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\!unicode{x027D0}}}}
43
44 \CustomizeMathJax{\newcommand{\circleright}{\mathrel{\!unicode{x025CB}\!\!unicode{x02192}}}}
45 \CustomizeMathJax{\newcommand{\circleleft}{\mathrel{\!unicode{x02190}\!\!unicode{x025CB}}}}
46 \CustomizeMathJax{\newcommand{\circledotright}{\mathrel{\!unicode{x02299}\!\!unicode{x02192}}}}
47 \CustomizeMathJax{\newcommand{\circledotleft}{\mathrel{\!unicode{x02190}\!\!unicode{x02299}}}}
48 \CustomizeMathJax{\let\circledotdotright\circledotright}
49 \CustomizeMathJax{\let\circledotdotleft\circledotleft}
50
51 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\!unicode{x027DC}}}}
52 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\!unicode{x029DF}}}}
53 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\bullet}}}
54 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-}}}
55 \CustomizeMathJax{\newcommand{\multimapdotboth}{\mathrel{\!\bullet\!\!-\!\!\!\bullet}}}
56 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\!unicode{x022B6}}}}
57 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\!unicode{x22B7}}}}
58
59 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
60   \mathrel{\overset{\!unicode{x025CB}}{\underset{\!unicode{x025CB}}{|}}}}%}
61 }
62 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
63   \mathrel{\overset{\!unicode{x025CF}}{\underset{\!unicode{x025CF}}{|}}}}%}
64 }
65 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
66   \mathrel{\overset{\!unicode{x025CF}}{\underset{\!unicode{x025CB}}{|}}}}%}
67 }
68 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
69   \mathrel{\overset{\!unicode{x025CB}}{\underset{\!unicode{x025CF}}{|}}}}%}
70 }
71
72 \CustomizeMathJax{\newcommand{\bignplus}{%
73   \mathop{\LWRoverlaysymbols{\!unicode{FF0B}}{\!unicode{x22C2}}}}%}
74 }
75 \CustomizeMathJax{\let\bigcapplus\bignplus}
76 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
77
78 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
79   \mathop{\LWRoverlaysymbols{\!unicode{FF0B}}{\!unicode{x2A05}}}}%}
80 }
81 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf
```

```
82
83 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
84     \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}}
85 }%
86 \CustomizeMathJax{\let\sqcupplus\bigsqcupplus}% from kpfonts-otf
87
88 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
89 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
90     \mathrel{\unicode{x0005C}!\!\!\unicode{x0005C}}}}
91 }%
92
93 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=!\!\unicode{x2237}}}}
94 \CustomizeMathJax{\let\eqqColon\Eqqcolon}% for kpfonts-otf
95 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\unicode{x2237}}}}
96 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
97
98 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{:}\approx}}
99 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{:}\sim}}
100 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\unicode{x2237}!\!\!\approx}}}
101 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}!\!\!\sim}}}
102
103 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\unicode{x0297D}}}}% right fish tail
104 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\unicode{x0297C}}}}% left fish tail
105 \CustomizeMathJax{\newcommand{\strictiff}{%
106     \mathrel{\unicode{x0297C}!\!\!\unicode{x0297D}}}}
107 }% left/right fish tails
108
109 \CustomizeMathJax{\newcommand{\circledwedge}{%
110     \mathbin{\LWRoverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}}
111 }%
112 \CustomizeMathJax{\newcommand{\circledvee}{%
113     \mathbin{\LWRoverlaysymbols{\unicode{x025EF}}{\unicode{0x02228}}}}
114 }%
115 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\mathrel{\unicode{x029B6}}}}}
116
117 \CustomizeMathJax{\newcommand{\openJoin}{\mathrel{\unicode{x2AA4}}}}% overlapping >
118 \CustomizeMathJax{\newcommand{\opentimes}{\mathrel{\unicode{x2AA4}}}}% overlapping <
119
120 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
121
122 \CustomizeMathJax{\newcommand{\lambdabar}{%
123     \mathord{\LWRoverlaysymbols{\raise{.5ex}{-}}{\lambda}}}}
124 }%
125
126 \CustomizeMathJax{\newcommand{\lambdadaslash}{\mathord{\mathrel{\unicode{x019B}}}}}
127
128 \CustomizeMathJax{\newcommand{\Wr}{\mathbin{\mathrel{\unicode{x02240}!\!\!\unicode{x02240}}}}}
129
130 \CustomizeMathJax{\newcommand{\dashleftrightarrow}{%
131     \mathrel{\unicode{x021E0}!\!\!\unicode{x021E2}}}}
132 }%
133 \CustomizeMathJax{\let\leftrighthasharrow\dashleftrightarrow}% for kpfonts-otf
134
135 \end{warpMathJax}
```

---

File 580 **l warp-common-mathjax-overlaysymbols.sty**

§ 688      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

§ 689 Chg Hist

---

For the most recent changes, see page 1379.

v0.0.895	General: maybemath: Added. ....	976	Docs: Troubleshooting cross-references. ....	201	
v0.10	General: 2016/03/08 Initial version .	1	Test Suite: Assigned cleveref name for Test Float. ....	1	
v0.11	General: 2016/03/11 .....	1	Test Suite: Floatrow. ....	1	
	Added section: Operating-System portability. ....	235			
	Added section: Selecting the operating system. ....	121			
	Test Suite: MS-WINDOWS in README.txt ....	1			
	Test Suite: images and index in README.txt ....	1			
v0.12	\LWR@newhtmlfile: Bugfix: toc with numbered files. ....	403	General: 2016/04/06 .....	1	
	General: 2016/03/14 .....	1	Added. ....	838	
	Global: Uses \p@(type) in float captions. ....	1	Ampersand (&): Fixed handling when passed as an argument. ....	461	
	Test Suite: Sub-figures .....	1	Docs: Added warning icons for items needing special attention. ....	209	
v0.13	\CaptionSeparator: Fix for newer babel package. ....	533	Docs: Clarify print/HTML output. ....	122	
	\LWR@LwarpStart: \up and \fup ....	423	Docs: Moved the supported features table to the introduction. ....	69	
	General: 2016/03/24 .....	1	Files: lwarp_formal.css added. ....	1	
	Fix dollar-redefined bug for newer package. ....	1208	Fix: steps counter ....	838	
	Removed package: subfig ....	1	Fixed & handling. ....	836	
	Test Suite: Ordinals, Subcaption ....	1	Test Suite: test_suite_formal.css file added. ....	1	
v0.14	\LWR@htmlsectionfilename: Fix: Links to home page. ....	355	v0.16	General: 2016/04/11 .....	1
	General: 2016/03/31 .....	1	\titlingpage: Improved print-output spacing. ....	432	
	floatrow: Added. ....	834	xfrac: Adjusted for the use of any font. ....	1275	
	Docs: Commands for a successful HTML conversion. ....	126	Added XeLaTeX, LuaLaTeX support. ....	210	
	Docs: Commands into a warpprint environment. ....	123	Docs: Font and UTF-8 support. ....	103	
	Docs: Newclude limitations. ....	180	Docs: Moved location of \usepackage{lwarp}. ....	107	
	Docs: Table: Cross-referencing data structures. ....	516	Docs: Text not converting. ....	201	
	Docs: Table: Float data structures. ....	529	Lwarp no longer selects fonts. ....	103, 246	
	Docs: Trademarks section. ....	206	Removed package: suffix ....	1	
v0.17	\LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. ....	355	Test Suite: Improved titlingpage. ....	432	
	General: 2016/04/14 .....	1	Test Suite: Lwarp no longer selects fonts. ....	1	
	mdframed: Added. ....	977	Test Suite: Supports XeLaTeX, LuaLaTeX. ....	1	

Test Suite: Fix: Print-version front-matter page numbers. . . . .	1
Test Suite: Mdframed . . . . .	1
<b>v0.18</b>	
\LWR@myshorttoc: Reorganize \HomeHTMLFilename logic. . . . .	538
\LWR@newhtmlfile: sideroc after title, improving responsive design. . . . .	403
\LWR@requesttoc: Reorganize \HomeHTMLFilename logic. . . . .	425
\LWR@subhyperref: Improved HTML output linebreaks. . . . .	525
\LWR@subhyperrefclass: Improved HTML output linebreaks. . . . .	526
\LWR@subinlineimage: Suppress extra space. . . . .	527
\hspace: \hspace supported. . . . .	634
General: 2016/05/19 . . . . .	1
graphics: Add: svg file extension. . . . .	872
graphics: Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .	872
graphics: Improved HTML output linebreaks. . . . .	872
graphics: em, ex, %, px dimensions preserved. . . . .	872
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 . . . . .	246
PDF Unicode input characters. . . . .	228
Test Suite: Verse package . . . . .	1
\textimage: pdfcrop: --hires added. . . . .	592
Reorganize \HomeHTMLFilename logic. . . . .	592
Suppress extra space. . . . .	592
verse: Supports verse, memoir packages. . . . .	1251
minipage: Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .	612
<b>v0.19</b>	
\HTMLFilename: Docs: Escape filename underscores. . . . .	354
\HomeHTMLFilename: Docs: Escape filename underscores. . . . .	354
\lwr@LwarpStart: Enabled \\ equal to \newline. . . . .	422
\lwr@dequation: MATHJAX support. . . . .	579
\lwr@doubledollar: MATHJAX support. . . . .	572
\lwr@filestart: l warp_mathjax.txt loaded. . . . .	419
\lwr@minipagestartpars: Suppresses paragraph tags between minipages. . . . .	633
\lwr@subsingle-dollar: MATHJAX support. . . . .	570
\LateximageFontSizeName: Add: User-adjustable math/latexitimage font size. . . . .	589
\hspace: Fix: \hspace length computations. . . . .	634
\minipagewidth: Added: No width tag for the next minipage in HTML. . . . .	611
\warpHTMLonly: Added. . . . .	244
\warpprintonly: Replaces \rowprintedonly. . . . .	244
\xfracHTMLfontsize: Added. . . . .	1274
General: 2016/06/08 . . . . .	1
css for table note item. . . . .	1205
MATHJAX support added. . . . .	576, 584
multirow: Added optional args. . . . .	1009
xcolor: Supports colored \rule. . . . .	1265
Adapts to tikz version. . . . .	1208
Avoids MATHJAX. . . . .	563
cleveref: Loaded \AtEndPreamble. . . . .	608
Docs: Math options. . . . .	107
Docs: Table: Cross-referencing data structures, updated. . . . .	516
File: l warp.css: \noteitemheader added. . . . .	1
File: l warp_mathjax.txt added. . . . .	1
Introduction: MATHJAX support mentioned. . . . .	66
Options: mathsvg and mathjax . . . . .	238
titles: null \pagestyle and \thispagestyle for HTML. . . . .	1209
<b>v0.20</b>	
\BlockClassSingle: Renamed from "LWR@htmldivclassname". . . . .	370
\HTMLDescription: Added \NewHTMLdescription. (Renamed in v0.30.) . . . . .	382
\HTMLFilename: No longer escape underscores. . . . .	354
\HomeHTMLFilename: No longer escape underscores. . . . .	354
\InlineClass: Renamed from "inlineclass". . . . .	371
\lwr@closeparagraph: \unskip extra spaces. . . . .	375
No break tags in the start/end of a tabular. . . . .	375
\lwr@endofline: Fix: \\ . . . . .	633

\LWR@filestart: Adds meta description.	419
\LWR@htmldivclass: Added optional style.	369
\LWR@htmlelementclass: Added optional style.	368
\LWR@htmlsectionfilename: HTMLfilename: removed additional trailing ',', and may be empty.	355
Sections called "Index" or "index" have an underscore prepended to their filenames if no prefix.	355
\LWR@hyperindexrefsubtwo: Print mode provided in case hyperref not used.	553
\LWR@longtabledatacaptiontag: Fix: Pars in captions.	499
\LWR@section: Combined higher-level sections together into files.	410
\LWR@setOSWindows: Auto-detects operating system.	237
\LWR@subhtmlelementclass: Factored code.	368
\SetHTMLFileNumber: Add: Control file numbers.	354
\cpagerefFor: User-redefinable word for page references.	763
\dotfill: Inserts an ellipsis.	632
\hfill: Inserts a \quad.	632
\hrulefill: Inserts a short rule.	632
\hspace: Add: Supports HTML thin breakable space.	634
\pageref: Added.	524
\tracingl warp: Added.	261
General: 2017/02/09	1
afterpage: Added.	663
alltt: Added.	668
bookmark: Added.	709
caption and subcaption supported.	1
cleveref and referencing patches:	
Applied \AfterEndPreamble.	762
draftwatermark: Added.	780
eso-pic: Added.	802
everypage: Added.	806
extramarks: Added.	807
fancyhdr: Added.	813
float: Improved float caption type handling.	831
graphics: Fix: Expands filename.	872
graphics: Fix: \linewidth in a floatrow.	872
hyperref: Additional user macros.	884
keyfloat: Added.	911
letterspace: User-interface emulated.	924
listings: Added.	935
ltcaption: Added.	947
\warp-newproject: Added.	273
microtype: User-interface emulated.	994
needspace: Added.	1021
nowidow: Added.	1037
placeins: Added.	1075
ragged2e: Added.	1084
setspace: Improved support.	1110
textpos: Added.	1197
titleps: Added.	1209
titlesec: Added.	1212
titletoc: Added.	1214
titling: Improved compatibility.	1216
tocloft: Added.	1224
wallpaper: Added.	1256
wrapfig: Added.	1259
xetexko: Added.	1273
Added @, <, > columns.	454
Added single-expansion data arrays.	350
Code factored into independent \warp_html files.	651
Docs: Examples for generating HTML file names.	119
Docs: Improved index.	1
Enhanced titling support.	431
File: \warp.css: Minor fixes for validation.	1
File: \warpmk used to compile print, HTML, indexes, and lateximages.	1
Fix: \linewidth in a floatrow.	836
Moved sidebar and example code to test suite.	1
Page geometry set to 6in wide with large margins.	247
Parallel versions of aux files for print/HTML.	1
Removed reliance on make, grep, gawk.	1
Tabular: \unskip extra spaces.	454
Test Suite: HTML meta descriptions.	1
verbatim: Added.	442
BlockClass: Added optional style.	370
Renamed from "blockclass".	370
\warp@nestspan: Fix: Minipages inside a span.	365
v0.21	
\LWR@LwarpStart: Changed lateximages to a .txt file.	422

\LWR@filestart: Skip title if not given. . . . .	419	v0.24	\LWR@htmlfileref: Fix: Index links while \tracingl warp. . . . .	518
\LWR@newhtmlfile: Skip title if not given. . . . .	403	\hspace: Add: \hspace \fill converts to 2em . . . . .	634	
\marginpar: Fixed source listing. . . . .	389	\hypertocfloat: List of floats responds to lofdepth, lotdepth. . . . .	544	
\marginparBlock: Fixed source listing. . . . .	389	General: 2017/03/15 . . . . .	1	
General: 2017/02/23 . . . . .	1	floatrow: Support for subfig. . . . .	834	
fontenc: Added. . . . .	843	subfig: Added. . . . .	1169	
<i>lwarpmk</i> : Fix: <i>lwarpmk again</i> for WINDOWS. . . . .	328	tikz: For tikz v3.0.0 or later, auto-loads tikz babel library if necessary. . . . .	1207	
<i>lwarpmk</i> : Fix: <i>lwarpmk limages</i> for WINDOWS. . . . .	328	Docs: Filename underscore. . . . .	107, 129	
<i>lwarpmk</i> : Fix: <i>lwarpmk</i> uses lateximages text file instead of shell script. . . . .	328	Fix for inline images. . . . .	1208	
Add: Errors for misplaced packages. . . . .	210	No longer preloads subcaption; conflicted with subfig. . . . .	251	
Docs: Added internet class. . . . .	76	picture: Fix for inline images. . . . .	609	
Docs: Added TeX2page, GladTeX. . . . .	76	v0.25		
Docs: Installing on WINDOWS. . . . .	82	\LWR@loadnever: Added the ability to prevent conflicting packages. . . . .	212	
File: <i>l warp_tutorial.txt</i> added. . . . .	86	\addcontentsline: Handles theorems. . . . .	537	
v0.22		General: 2016/03/22 . . . . .	1	
\lWR@parseDcolumn: Added tabular D column. . . . .	471	amsthm: Added. . . . .	673	
\lWR@parsebangcolumn: Added tabular ! column. . . . .	466	ellipsis: Added. . . . .	785	
\lWR@parseablecols: Unknown table column types become l. Added tabular D, !, X columns. . . . .	473	emptypage: Added. . . . .	786	
\lWR@printmccoldata: Added tabular D, !, and X columns. . . . .	493	framed: Added. . . . .	850	
General: 2017/03/02 . . . . .	1	lips: Added. . . . .	934	
abstract: Added. . . . .	653	mdframed: Help avoid hyphenation. . . . .	979	
changepage: Added. . . . .	725	ntheorem: Added. . . . .	1038	
dcolumn: Added. . . . .	774	showidx: Added. . . . .	1112	
ftnright: Added. . . . .	853	theorem: Added. . . . .	1197	
geometry: Nullified commands. . . . .	858	Basic LATEX theorems: improved css. . . . .	443	
layout: Added. . . . .	921	Docs: Adds credits for patched code. . . . .	1	
lscape: Added. . . . .	946	Docs: Testing l warp. . . . .	197	
mcaption: Added. . . . .	977	Fix: Allows XELATEX and LuaLATEX to preload graphics and graphicx. . . . .	217	
nameref: Added. . . . .	1017	v0.26		
nextpage: Added. . . . .	1024	General: 2017/03/31 . . . . .	1	
parskip: Added. . . . .	1059	l warp.css: Improved responsive marginpar and marginblock. . . . .	281	
showkeys: Added. . . . .	1112	cutwin: Added. . . . .	773	
sidecap: Added. . . . .	1114	endnotes: Added. . . . .	788	
tabularx: Added. . . . .	1180	floatflt: Added. . . . .	832	
variorref: Supported. . . . .	135	footmisc: Added. . . . .	844	
verse: Added. . . . .	1250	footnotehyper: Added. . . . .	846	
v0.23		footnote: Added. . . . .	845	
\lWR@parseablecols: Fix for vert bar column type. . . . .	473	marginfix: Added. . . . .	959	
\lWR@printmccoldata: Fix for vert bar column type. . . . .	493	marginnote: Added. . . . .	959	
General: 2017/03/02 . . . . .	1	mparhack: Added. . . . .	1004	
pagenote: Supported as-is. . . . .	1053			

sidenotes: Added. . . . .	1114	graphics: Added. . . . .	864
Docs: Improved MiKTEX install instructions. . . . .	81, 83	tabularx: Fix for optional pos. . .	1180
Dollar span avoided in a latextimage. . . . .	563	tabulary: Added. . . . .	1180
Footnotes now are LATEX boxes instead of pagenotes. . . . .	383	<i>lwarpmk</i> : Add: <b>printglossary</b> and <b>htmlglossary</b> commands. . . . .	328
latextimage: Labels track page numbers of latextimages. . . . .	592	Added boolean FormatEPUB. . . . .	266
Print mode now uses a minipage of \linewidth. . . . .	592	Added boolean FormatWP. . . . .	267
picture: Fix for \makebox in picture.	609	Added boolean HTMLDebugComments. . . . .	261
v0.27		Added boolean HTMLMarkFloats, changed to WPMarkFloats as of v0.42. . . . .	267
\LWR@footnotetext: Fix for table footnote par tags. . . . .	385	Docs: Modifying lwarpmk and index processing. . . . .	198
General: 2017/04/04 . . . . .	1	File: lwarpm_mathjax.txt: Updated CDN repository. . . . .	324
letrine: Added. . . . .	925	Forced oneside to maintain large right margin. . . . .	247
microtype: Fix with XeLATEX, LuaLATEX. . . . .	994	v0.29	
soul: Added. . . . .	1147	General: 2017/04/15 . . . . .	1
ulem: Added. . . . .	1239	*.lwarpmkconf: Add: language option for config files. . . . .	280
Docs: Installing utilities for MACOS.	84	lwarpmk.conf: Add: language option for config files. . . . .	280
Docs: Limitations of saveboxes. .	129	graphics: Fix: Error when no optional arguments. . . . .	872
Page geometry modified to reduce line overflow. . . . .	247	<i>lwarpmk</i> : Add: language option for config files. . . . .	328
v0.28		Add: lwarpmklang option for lwarpmk. . . . .	239
\@wrindex: Improved indexing. . .	548	Docs: Using a glossary . . . . .	97
\HTMLAuthor: Added \HTMLauthor. (Renamed in v0.30.) . . . . .	381	v0.30	
\LWR@LwarpEnd: If FormatEPUB or FormatWP, no bottom nav. . . . .	425	\CSSFilename: Renamed from \NewCSS. . . . .	380
\LWR@LwarpStart: FormatWordProcessor forces single-file output. . . . .	422	\HTMLAuthor: Renamed from \HTMLauthor. . . . .	381
\LWR@filestart: Adds HTML meta author. . . . .	419	\HTMLDescription: Renamed from \NewHTMLdescription. . . . .	382
\LWR@forcenewpage: Forces new PDF page before major environments.	361	\HTMLFirstPageTop: Renamed from \SetFirstPageTop. . . . .	379
\LWR@htmlcomment: Breaks ligatures in HTML comments. . . . .	367	\HTMLLanguage: Renamed from \MetaLanguage. . . . .	418
\LWR@hyperindexrefsubtwo: Improved indexing. . . . .	553	\HTMLPageBottom: Renamed from \SetPageBottom. . . . .	380
\LWR@newhtmlfile: If FormatEPUB or FormatWP: skips headers, footers, nav. . . . .	403	\HTMLPageTop: Renamed from \SetPageTop. . . . .	379
\LWR@parseablecols: Added L, C, R, J column types. . . . .	473	General: 2017/04/29 . . . . .	1
\LWR@startref: Removed space. . .	521	<i>lwarpm-newproject</i> removed, and combined with lwarpm. . . . .	273
\chapter: If EPUB, prints footnotes before each section. . . . .	416	<i>lwarpmk</i> : Add: xdyfile configuration option. . . . .	328
\textup: Fixed span class. . . . .	623	<i>lwarpmk</i> : Fix: <i>xindy</i> and <i>texindy</i> adjusted for <i>pdflatex</i> , <i>xelatex</i> and <i>lualatex</i> . . . . .	328
General: 2017/04/14 . . . . .	1		
glossaries: Added. . . . .	862		
graphics: Adapts to graphics syntax. . . . .	872		

<i>lwarpmk</i> : Fix: <i>xindy</i> now used for print index generation with <i>latexmk</i> . . . . .	328	Add: Tabular at and bang columns now have their own HTML columns. . . . .	454
<i>lwarpmk</i> : language now used for both index and glossary generation. . . . .	328	cleveref: Fix: Loaded \AtEndPreamble. . . . .	608
File: <i>l warp_html.xdy</i> renamed to <i>l warp.xdy</i> . . . . .	322	Fix: Incorrectly-inline math environments. . . . .	584
Fix: *.css files only written in print mode. . . . .	281	New handling of & to localize catcode changes. . . . .	454
Fix: <i>l warp.xdy</i> only written in print mode. . . . .	322	v0.34	
Fix: <i>l warp_mathjax.txt</i> : Only written in print mode. . . . .	324	\@fnsymbol: Text symbols instead of math. . . . .	433
Option <i>lwarpmklang</i> changed to <i>IndexLanguage</i> . . . . .	239	\InlineClass: Moved optional argument in front of mandatory. . . . .	371
Option <i>OSWindows</i> replaces macro <i>\warpOSwindows</i> . . . . .	240	\LWR@htmldivclass: Moved optional argument in front of mandatory. . . . .	369
Option <i>xdyFilename</i> added. . . . .	239	\LWR@htmlelementclass: Moved optional argument in front of mandatory. . . . .	368
Option <i>latexmk</i> replaces macro <i>\UseLatexmk</i> . . . . .	241	\LWR@htmlelementclassline: Moved optional argument in front of mandatory. . . . .	369
Options <i>HomeHTMLFilename</i> and <i>HTMLFilename</i> replace macros <i>\HomeHTMLFilename</i> and <i>\HTMLFilename</i> . . . . .	240	\LWR@htmlspanclass: Moved optional argument in front of mandatory. . . . .	366
v0.31		\LWR@nullfonts: Improved font control. . . . .	558
General: 2017/05/15 . . . . .	1	\LWR@restoreorigformatting: booktabs: Works inside <i>lateximage</i> . . . . .	556
keyfloat: Improved compatibility. . . . .	911	Improved font control. . . . .	556
v0.32		\LWR@subhtmlelementclass: Moved optional argument in front of mandatory. . . . .	368
\RequirePackage: Fix: Ignores blanks in package list. . . . .	255	\LWR@tabledatatablecolumntag: booktabs: Works inside <i>lateximage</i> . . . . .	505
General: 2016/06/09 . . . . .	1	\fboxBlock: Added. . . . .	618
glossaries: Prevent error with <i>\glo@name</i> not defined. . . . .	554	\makebox: Fix: Handles paren arg. . . . .	616
<i>lwarpmk</i> : Fix: <i>io.lines()</i> changed to <i>file:lines()</i> due to <i>luatex</i> changes. . . . .	328	General: 2017/08/08 . . . . .	1
v0.33		<b>babel-french</b> : Adds fixed-width HTML spaces to punctuation. . . . .	363
\HTMLAuthor: Fix: Provides empty default author if none given. . . . .	381	<b>balance</b> : Added. . . . .	695
\LWR@loadbefore: Fix: No <i>\PackageError</i> if already loaded. . . . .	212	booktabs: Works inside <i>lateximage</i> . . . . .	509, 710
\LWR@parseatcolumn: Fix: Column alignment with leftmost @. . . . .	465	boxedminipage2e: Added. . . . .	712
\LWR@tabledatatablesinglecolumntag: Fix: Macros in tabular could cause extra data cell. . . . .	481	crop: Added. . . . .	770
\LWR@vspace: Add: <i>\vspace</i> nullified. . . . .	636	enumerate: Added. . . . .	796
\StartDefiningTabulars: Add: Avoids error: Misplaced alignment tab character &. . . . .	351	enumitem: Added, no longer required. . . . .	796
General: 2017/07/10 . . . . .	1	everyshi: Added. . . . .	807
amsmath: Removed <i>fleqn</i> option. . . . .	669	fancybox: Added. . . . .	809
fancyhdr: Fix: Optional args for <i>\thead</i> , etc. . . . .	813	fancyverb: Added, no longer required. . . . .	817
		figcaps: Added. . . . .	826
		filecontents: Required. Patched for morewrites. . . . .	250

floatpag: Added.	833
flushend: Added.	839
fullpage: Added.	853
hyperxmp: Added.	894
idxlayout: Added.	896
marginfit: Added.	959
mdframed: Improved mdtheorem patch.	984
moreverb: Added.	1001
paralist: Added.	1053
pdfscape: Added.	1063
pdfsync: Added.	1067
prelim2e: Added.	1077
rotfloat: Added.	1094
savetrees: Added.	1095
shadow: Added.	1111
syntonly: Added.	1178
titlesp: No longer required.	1209
titleref: Prevented.	1212
xcolor: Added \LWR@subfcollminipage.	1269
xmpincl: Added.	1277
Docs: Horizontal space limitations.	1
Docs: Misplaced alignment character.	201
File: l warp_mathjax.txt: Version change.	324
File: README.txt: updated.	1
Fix: Added the eqnarray environments.	584
Improved font control.	621
Lists refactored to remove enumitem requirement.	445
Verbatim refactored to remove fancyvrb requirement.	440
tabular: booktabs: Works inside latexitimage.	510
latexitimage: Fix: latexitimage with minipage, \parbox, \makebox, \fbox, \framebox, \raisebox, \scalebox, \reflectbox.	592
BlockClass: Moved optional argument in front of mandatory.	370
fminipage: Added.	619
\LWR@nestspan: Fix: Minipages, BlocksClass, and lists inside a span.	365
v0.35	
General: 2017/08/08	1
Fix: \textbf and related.	621
v0.36	
\LWR@footnotetext: Extra HTML source space after paragraphs.	385
Force HTML superscripts.	385
\LWR@HTMLsanitizeexpand: Fix for babel-french.	398
\LWR@closeparagraph: Extra HTML source space after paragraphs.	375
\LWR@currenttextcolor: Fix for \rule when xcolor not loaded.	630
\LWR@nullfonts: Fix: Filenames while using MATHJAX.	558
\LWR@restoreorigformatting: siunitx: Improved super/subscripts in a latexitimage.	556
\LWR@section: Improved spacing.	410
\LWR@stoppars: Extra HTML source space after paragraphs.	377
\LWR@subHTMLsanitize: Fix for babel-french.	397
\fbox: Fix: Uses \fboxrule and \fboxsep.	618
\framebox: Fix: Handles width and horiz position.	617
\makebox: Fix: Handles width and horiz position.	616
General: 2017/08/17	1
babel-french: Adjustements for French variants, load order, footnotes, ellipses.	363
footnote: Extra HTML source space after paragraphs.	845
siunitx: Fix for babel-french.	602
siunitx: Improved symbol support.	1127
transparent: Added.	1234
upref: Added.	1248
xcolor: Added \fcolorboxBlock, \colorboxBlock.	1261
xcolor: Fix: Background none in print mode.	1261
xcolor: Refactored \LWR@colorstyle.	1265
xcolor: Uses \fboxrule and \fboxsep.	1261
xcolor: \fcolorbox etc. now work inside latexitimage.	1261
Docs: Reorganized: Special cases and limitations.	126
Source: Improved formatting.	1
tabular: Fix for babel-french.	510
latexitimage: Footnotes appear in regular text instead of the latexitimage minipage.	592
v0.37	
@include: Maintains independent aux files for HTML.	259
General: 2017/08/19	1

\LaTeX accents: Added	271	Supports <code>authblk</code> with <div>s of class <code>oneauthor</code> instead of <code>tabular</code>	434, 1219
<code>babel-french</code> : Adjustment for load order	363	\AddSubtitlePublished: Added	436
<code>color</code> : Prevented	767	\LWR@domulticolumn: Add: Optional <code>vpos</code> and # rows	496
<code>sunitsx</code> : Improved symbol support	1127	\LWR@restoreorigformatting: Appended with <code>\appto</code> instead of calling various macros	556
<code>textcomp</code> : Improved support	1193	\LWR@tabledatacolumntag: Don't start a data cell if see <code>\TabularMacro</code>	505
<code>lwarpmk</code> : Removes additional HTML aux files	328	\ResumeTabular: Added	505
File handles reorganized	258	\TabularMacro: Added	504
<b>v0.38</b>		\multicolumnrow: Added	503, 1011
\@seccntformat: Added for appendix	409	\printauthor: Removed minipages	431
\ForceHTMLPage: Added	407	Supports <code>authblk</code> with <div>s of class <code>oneauthor</code> instead of <code>tabular</code>	431
\ForceHTMLTOC: Added	407	\thanksmarkseries: Removed minipage footnotes	1220
\LWR@section: \part* starts a new HTML page, for appendix	410	General: 2017/08/27	1
Modified spacing, uses <code>\numberline</code>	410	appendix: Added	680
\numberline: Added trailing <code>\quad</code>	543	arabicfront: Added	682
\part: Fix with <code>article</code> class	416	chappg: Added	731
General: 2017/08/27	1	color: Forces <code>xcolor</code> as well	767
appendix: Added	680	fix2col: Added	827
arabicfront: Added	682	fncychap: Added	839
chappg: Added	731	grffile: Added	877
color: Forces <code>xcolor</code> as well	767	metalogo: Added	990
fix2col: Added	827	nonumonpart: Added	1036
fncychap: Added	839	nopageno: Added	1036
grffile: Added	877	pagenote: Option <code>page disabled</code>	1053
metalogo: Added	990	realscripts: Added	1084
nonumonpart: Added	1036	relsize: Added	1089
nopageno: Added	1036	romanbarpagenumber: Added	1093
pagenote: Option <code>page disabled</code>	1053	romanbar: Added	1093
realscripts: Added	1084	scalefont: Added	1096
relsize: Added	1089	sunitsx: Removed from <code>lwarpm</code> core	1127
romanbarpagenumber: Added	1093	textcomp: Removed from <code>lwarpm</code> core	1193
romanbar: Added	1093	core: . . . . .	1193
scalefont: Added	1096	tocbibind: Added	1222
sunitsx: Removed from <code>lwarpm</code> core	1127	xltxttra: Added	1277
textcomp: Removed from <code>lwarpm</code> core	1193	<i>lwarpmk</i> : Added <code>print1</code> and <code>html1</code> actions	328
Docs: Enhanced <i>Supported Features</i> table	69	Added <code>\markboth</code> , <code>\sloppy</code> , etc.	360
Docs: Index, <code>tocbibind</code>	142	Docs: Enhanced <i>Supported Features</i> table	69
Docs: Starred sections	138	Docs: Index, <code>tocbibind</code>	142
<b>v0.39</b>		Docs: Starred sections	138
\@maketitle: <code>titling</code> version	1219	\titlepage: Clear pending footnotes	430
Native <code>\LaTeX</code> version	434	Removed minipages	434, 1219
Removed minipages	434, 1219	\AddSubtitlePublished restores	436
		Titlepage \published and \subtitle removed	

titlingpage: Clear pending footnotes.	1216	tocbibind: Improved for \simplechapter.	1222
v0.40		xfrac: No longer preloaded.	251
\@chapcntformat: Added for tocbibind, <i>anonchap</i> .	409	\xltextra: Fix for \showhyphens with XeLaTeX.	1277
\LWR@HTMLhline: Added.	509	v0.41	
\LWR@nullfonts: Fix: Long arguments for expandable command.	558	\LWR@addcmidruletrim: Add: \cmidrule trims.	486
\LWR@restoreorigformatting: Improved L <sup>A</sup> T <sub>E</sub> X logos inside a lateximage.	556	\LWR@clearmidrules: Add: \cmidrule trims.	483
Improved symbols inside a lateximage.	556	\LWR@closetabledatacell: Add: Mute > for \bottomrule.	460
Nullified \InlineClass, etc. inside a lateximage.	556	Fix: At/bang column with \multirow.	460
\LWR@tabledatacolumnntag: Fix for bigdelim: \ldelim, \rdelim.	505	Fix: Cancel < for \multicolumn.	460
\chapter: Added support for quotchap.	416	\LWR@domulticolumn: Add: \cmidrule trims.	496
\multicolumnrow: Fix: Adapts to older multirow and xparse.	503	Added vertical rules.	497
\simplechapterdelim: Added for tocbibind, <i>anonchap</i> .	409	\LWR@nullifyNoAutoSpacing: babel-french: Fix: \NoAutoSpacing in a tabular.	510
\underline: Added.	630	\LWR@parsebarcolumn: Added vertical rules.	468
General: 2017/09/25	1	\LWR@printatbang: Add: \cmidrule trims.	480
adjmulticol: Added.	662	Add: Mute at and bang columns for \bottomrule.	480
anonchap: Added.	679	\LWR@printbartag: Added vertical rules.	479
bigdelim: Improved documentation.	706	\LWR@subaddcmidruletrim: Added.	486
cuted: Added.	773	\LWR@subcmidrule: Add: \cmidrule trims.	484
dblfnote: Added.	774	\LWR@tabledatasinglecolumnntag: Add: \cmidrule trims.	481
fnpos: Added.	841	Add: Mute < for \bottomrule.	481
graphics: Add: Full \graphicspath support.	872	\LWR@tabularfinishrow: Unfinished tabular rows automatically filled.	462
graphics: Moved out of the lwrap core.	864	\mcolrowcell: Added for \multicolumnrow cells.	508
graphics: Restores \includegraphics and \DeclareGraphicsExtensions in a lateximage.	864	General: 2017/10/07	1
graphicx: Moved out of the lwrap core.	877	booktabs: Improved rules.	710
grffile: Directly supported.	877	multirow: Add: \cmidrule trims.	1009
midfloat: Added.	995	Added vertical rules.	1010
multirow: Improved bigdelim borders.	1009	Fix: < spec.	1010
pfnote: Added.	1069	tabular: Fix: \NoAutoSpacing in a tabular with babel-french.	511
quotchap: Added.	1082	v0.42	
sectsty: Added.	1107	\@ensuredmath: Improved \ensuremath.	574
stabular: Added.	1153	\@textsubscript: Added.	629
tbls: Added.	1179	\@textsuperscript: Added.	629
textcomp: Additional symbols, improved XeLaTeX and LuaLaTeX support.	1193	\LWR@HTMLhline: If FormatWP force explicit border.	509

\LWR@addformatwpalignment: If FormatWP add explicit style for cell alignment. . . . .	488
\LWR@addrulewidth: If FormatWP force explicit border. . . . .	486
\LWR@amsmathbody: Fix: Numbering and naming AMS math environments. . . . .	590
\LWR@amsmathbodynumbered: Fix: Numbering and naming AMS math environments. . . . .	590
\LWR@doequation: If FormatWP print LaTeX expression. . . . .	579
\LWR@domulticolumn: If FormatWP add cell alignment. . . . .	498
\LWR@doubledollar: If FormatWP print LaTeX expression. . . . .	572
Improved \ensuremath. . . . .	572
Improved line spacing with mathjax. . . . .	572
\LWR@floatbegin: If FormatWP add a text frame. . . . .	530
\LWR@floatend: If FormatWP add a text frame. . . . .	531
\LWR@remembertag: Fix: Numbering and naming AMS math environments. . . . .	590
\LWR@restoreorigformatting: Improved \ensuremath. . . . .	557
\LWR@subaddcmidruletrim: Opt if no rule given. . . . .	486
\LWR@subsingledollar: If FormatWP print LaTeX expression. . . . .	570
\LWR@tabledatasinglecolumntag: If FormatWP add cell alignment. . . . .	482
\LaTeX: If FormatWP use explicit style. . . . .	641
\TeX: If FormatWP use explicit style. . . . .	641
\hspace: If FormatWP add \quads. . . . .	635
\listoffigures: Added boolean WPMarkLOFT. . . . .	540
\listoftables: Added boolean WPMarkLOFT. . . . .	540
\marginpar: If FormatWP emulate a wrapfig. . . . .	389
\marginparBlock: If FormatWP emulate a wrapfig. . . . .	389
\rule: If FormatWP add \quads. . . . .	638
\tableofcontents: Added boolean WPMarkTOC. . . . .	540
\underline: If FormatWP, use explicit styles for \underline, etc. . . . .	630
General: 2017/10/30 . . . . .	1
\textbf and related: If FormatWP, use explicit styles for \textsc, etc. . . . .	621
algorithmicx: If FormatWP add \quads. . . . .	667
booktabs: If FormatWP force explicit border. . . . .	710
epigraph: If FormatWP add HTML styles. . . . .	797
fancybox: If FormatWP add HTML styles. . . . .	809
floatflt: Added width. . . . .	832
graphics: Fix: Class key. . . . .	868
graphics: Fix: Filename expansion. . . . .	872
graphics: If FormatWP, use explicit size. . . . .	869
keyfloat: If FormatWP add explicit HTML style. . . . .	915
moreverb: Simplified formatting of listings. . . . .	1001
multirow: If FormatWP add cell alignment. . . . .	1010
overpic: Added. . . . .	1052
realscripts: Fix for subscripts in a lateximage. . . . .	1084
sidenotes: If FormatWP add explicit HTML style. . . . .	1115
siunitx: Improved \ensuremath. . . . .	1128
soul: If FormatWP, add explicit styles. . . . .	1147
textcomp: Improved \interrobangdown. . . . .	1193
wrapfig: If FormatWP add explicit HTML style. . . . .	1259
Added boolean WPMarkLOFT. . . . .	267
Added boolean WPMarkMath. . . . .	268
Added boolean WPMarkMinipages. . . . .	267
Added boolean WPMarkTOC. . . . .	267
Added boolean WPTitleHeading. . . . .	268
Docs: Added support page. . . . .	2
Docs: Improper \prevdepth. . . . .	201
Docs: Reorganized math limitations . . . . .	157
File: lwrap_mathjax.txt: Updated siunitx script. . . . .	324
Fix: Numbering and naming AMS math environments. . . . .	589
If FormatWP, shift section headings. . . . .	268
tabbing: Added. . . . .	443
lateximage: Fix: Numbering and naming AMS math environments. . . . .	592
center: If FormatWP use explicit text-align. . . . .	597
minipage: Added boolean WPMarkMinipages. . . . .	614
If FormatWP add a text frame. . . . .	613
eqnarray: Fix: Numbering and naming AMS math environments. . . . .	586

If FormatWP print LaTeX expression.	585
\LWR@BlockClassWP: Added to factor code.	371
\LWR@figcaption: If FormatWP forces italic captions.	535
<b>v0.43</b>	
\LWR@domulticolumn: Fix for vertical rules.	497
Fix: Multicolumn trim.	496, 497
\LWR@href: Made robust.	526
\LWR@maybeprintpendingfootnotes: Added FootnoteDepth.	388
\LWR@nolinkurl: Made robust.	526
\LWR@nullfonts: Fix: Nullify dollar inside filenames.	558
\LWR@parsetablecols: Ignore spaces in col spec.	473
\LWR@printmccoltype: Added vertical rules.	492
\LWR@section: Fix: Expansion in comparison.	411
Fix: Math in section name.	412, 414
Fix: Nullify fonts inside HTML comment.	411
\LWR@url: Made robust.	527
\TabularMacro: \newcommand instead of \relax to fix supertabular and xtab.	504
\nameref: Made robust.	524
General: 2017/11/08	1
\LWR@currentautosecpage: Added.	390
breakurl: Added.	713
hyperref: Made robust.	889, 891, 893
hyperref: \Gauge added.	894
luatodonotes: Added.	951
todonotes: Added.	1232
Added FootnoteDepth.	383
Docs: HTML settings table.	113
Docs: Reorganized HTML customization.	113
<b>v0.44</b>	
@\currentlabelname: Adjustment for koma-script.	516
\HTMLTitle: Added.	381
\LWR@addformatwpalignment: Fix for multicolumn alignment if FormatWP.	488
\LWR@backgroundcolor: xcolor: Added \LWR@backgroundcolor.	1265
\LWR@filestart: Add \HTMLTitle.	420
Fix \HTMLAuthor.	420
\LWR@listitem: Added list and trivlist.	447
\LWR@patchlists: Added list and trivlist.	451
\LWR@strresult: Fix:	
\providecommand.	458
\LWR@textcurrentcolor: xcolor: Added \LWR@textcurrentcolor.	1264
\addcontentsline: Automatic	
\LWR@newfloatanchor.	537
\chapter: Add preamble for koma-script.	416
\marginparBlock: Added.	389
\nopagecolor: xcolor: Fix for \nopagecolor.	1266
\part: Add preamble for koma-script.	416
\title: Added \thetitle.	381
General: 2017/11/22	1
algorithmicx: Improved comment symbol.	667
atbegshi: Added.	685
cancel: Added.	717
changepage: Additional options.	726
easy-todo: Added.	781
fancyref: Added.	816
fixmetodonotes: Added.	829
fixme: Added.	828
fontenc: Allowed after \warp.	843
hang: Added.	879
ifoddpage: Added.	897
ltxtable: Added.	948
luatodonotes: Improved.	951
\warp-patch-komascript: Added.	1286
overpic: Fix: Groups for lateximages.	1052
pdfsync: Fixes.	1067
preview: Added.	1078
scrextend: Added.	1097
scrhack: Added.	1101
scrlayer-notecolumn: Added.	1103
scrlayer-scrpage: Added.	1103
scrlayer: Added.	1101
section: Added.	1106
soulpos: Added.	1149
soulutf8: Added.	1150
supertabular: Fix for caption.	1177
tikz: Fix: Groups for lateximages.	1208
tocbasic: Added.	1220
tocloft: Added \newlistentry.	1229
tocloft: Improved \newlistof.	1229
tocstyle: Added.	1230
todonotes: Improved.	1232
todo: Added.	1231
typearea: Added expert commands.	1238
watermark: Added.	1257

xcolor: Added	
\lwr@currenttextcolorstyle.	1264
xcolor: Added	
\lwr@findcurrenttextcolor.	1264
xtab: Fix for caption.	1281
Adjustment for koma-script.	226
AMS environments: Fix: Groups for	
latximages.	670
If pdfLaTeX, require T1 and UTF-8	
encoding.	228
picture: overpic: Fix: Groups for	
latximages.	609
list: Added list and trivlist.	448
\lwr@nestspan: Added list and	
trivlist.	365
v0.45	
@\currentHref: Added.	525
@\donoparitem: Modified for HTML.	445
@\item: Modified for HTML.	446
@\mklab: Modified for HTML.	445
\cssfilename: Improved filenames	
with underscores.	380
\lwr@LwarpStart: Fix: Lateximages	
on incorrect pages with MATHJAX.	423
\lwr@label@createtag: Fix: Labels	
with underscores.	520
\lwr@newautoidanchor: Fix: No	
anchor if frozen autoid.	532
\lwr@nolinkurl: Fix: Underscore in	
URL.	526
\lwr@notmemoirloadafter: Added.	211
\lwr@printpendingmpfootnotes:	
Added.	388
\lwr@startref: Fix: Labels with	
underscores.	522
\lwr@subhyperref: Improved URLs	
with underscores.	525
\lwr@subhyperrefclass: Improved	
URLs with underscores.	526
\lwr@tabledatacolumntag: Fix:	
Empty line between rows.	508
\lwr@url: Improved URLs with	
underscores.	527
\chapter: Add optional heading title	
for memoir.	416
\newpage: Added.	633
\normalmarginpar: Added.	389
\reversemarginpar: Added.	389
\section: Add optional heading title	
for memoir.	417
\tableofcontents: Fix: Empty	
sidetoc.	540
Fix: Patch \AtBeginDocument.	540
General: 2018/01/14	1
array: Added.	682
babel-french: Robust commands.	363
backref: Added.	695
breakurl: Fix: Underscore in URL.	713
changebar: Added.	724
cite: Added.	759
continue: Added.	769
endfloat: Added.	787
fancyvrb: Improvements.	817, 818
flafter: Added.	830
fltrace: Added.	838
footnpag: Added.	846
fwlw: Added.	857
graphics: Improved URLs with	
underscores.	872
hanging: Added.	880
hyperref: Fix: Underscore in	
URL.	889, 890
l warp-patch-memoir: Added.	1289
memfixc: Added.	989
memoir: Added.	644
natbib: Added.	1017
pagesel: Added.	1053
prettyref: Added.	1077
subfigure: Added.	1174
subfig: Fix for subcaption end tag.	1172
subfig: Fix: Math in subcaptions.	1170
textfit: Added.	1196
titleref: Added.	1212
turnthepage: Added.	1236
Allows memoir's preloaded	
packages.	217
Docs: Fix for double hyphens.	84
Docs: Improved install instructions.	85
Docs: Improved MiKTEX install	
instructions.	81
Docs: Moved table so doesn't	
interfere with install docs.	80
File: l warp_mathjax.txt: Allow	
MATHJAX inside tabbing.	324
File: l warp_mathjax.txt: Allow	
MATHJAX inside verse.	324
Fix: Empty sidetoc.	539
Improved: Robust \,, \ , and	
\textrellipsis commands.	631
Separate LWR@thisautoidWP for	
word processor <div>s.	532
thebibliography: Patched to	
emphasize titles.	555
minipage: Fix: Improper \prevdepth.	614
v0.46	
\lwr@closeparagraph: Fix: Tabular	
empty lines.	376
\lwr@closeprevious: Fix: Stack	
unnesting.	360

\LWR@forcenewpage: Fix: Improper \prevdepth. . . . .	361
\LWR@lookforpackagename: Fix: Spaces in \usepackage. . . . .	255
\LWR@popclose: Fix: Stack unnesting. . . . .	349
\LWR@providelength: Added. . . . .	231
\LWR@pushclose: Fix: Stack unnesting. . . . .	348
\LWRPrintStack: Name changed from \PrintStack. . . . .	359
General: 2018/01/23 . . . . .	1
\LWR@tabularpardepth added. . . . .	457
amsthm: Adapted to trivlist changes. . . . .	676
mdframed: Fixes for svg math or lateximage in title. . . . .	981
mdframed: Fixes for footnotes. . . . .	981
ntheorem: Adapted to trivlist changes. . . . .	1038
theorem: Adapt to trivlist changes. . . . .	1199, 1201
tabular: Fix: Tabular empty lines. . . . .	513, 514
list: Fix: Stack unnesting. . . . .	448
v0.47	
\LWR@HTML@caption@begin: Fix: Argument passed to \LWR@origcaption@begin. . . . .	535
\LWR@LwarpStart: Fix for svg math in \nameref. . . . .	424
\LWR@WPcell: Fix: Line wrap at HTML hyphen. . . . .	487
\LWR@createautosec: Fix: Line wrap at HTML hyphen. . . . .	408
\LWR@domulticolumn: Fix: Line wrap at HTML hyphen. . . . .	498
\LWR@floatbegin: Fix: Line wrap at HTML hyphen. . . . .	530
\LWR@htmclosecomment: Add \mbox to prevent line breaks. . . . .	367
\LWR@label@createtag: Fix: Line wrap at HTML hyphen. . . . .	520
\LWR@newautoidanchor: Fix: Line wrap at HTML hyphen. . . . .	532
\LWR@printopenlist: Fix: Line wrap at HTML hyphen. . . . .	445
\LWR@startref: Fix: Line wrap at HTML hyphen. . . . .	521
\LWR@subsingle dollar: Added svg math image baseline adjust and em sizing. . . . .	570
\LWR@subsingle dollarsvg: Fix: Line wrap at HTML hyphen. . . . .	568
\captionlistentry: Fix: Line wrap at HTML hyphen. . . . .	536
\hypertoc: Fix: Line wrap at HTML hyphen. . . . .	544
\hypertocfloat: Fix: Line wrap at HTML hyphen. . . . .	545
General: 2018/01/30 . . . . .	1
adjmulticol: Fix: Line wrap at HTML hyphen. . . . .	662
blowup: Added. . . . .	708
caption: Added. . . . .	718
changepage: Fix for pagecheck macros. . . . .	726
endheads: Added. . . . .	787
epigraph: Fix: Line wrap at HTML hyphen. . . . .	797
hanging: Fix: Line wrap at HTML hyphen. . . . .	880
hang: Fix: Line wrap at HTML hyphen. . . . .	879
keyfloat: Fix for svg math in captions. . . . .	912
midpage: Fix: Line wrap at HTML hyphen. . . . .	995
multirow: Fix: Line wrap at HTML hyphen. . . . .	1009
multitoc: Added. . . . .	1012
ntheorem: Fix: Line wrap at HTML hyphen. . . . .	1042
realscripts: Fix: Line wrap at HTML hyphen. . . . .	1084
scrextend: Fix: Line wrap at HTML hyphen. . . . .	1097
sectionbreak: Added. . . . .	1106
sidenotes: Fix for svg math in captions. . . . .	1115
subfig: Fix for svg math in captions. . . . .	1170
subfig: Fix: Support \nameref. . . . .	1170
xurl: Added. . . . .	1283
lwarpmk: pdfcrop: Removed hires option for improved crop accuracy. . . . .	328
lateximage: Added css style option. . . . .	592
Fix: Line wrap at HTML hyphen. . . . .	596
center: Fix: Line wrap at HTML hyphen. . . . .	597
minipage: Fix: Line wrap at HTML hyphen. . . . .	613
flushleft: Fix: Line wrap at HTML hyphen. . . . .	598
flushright: Fix: Line wrap at HTML hyphen. . . . .	598
enumerate: Fix: Line wrap at HTML hyphen. . . . .	449
itemize: Fix: Line wrap at HTML hyphen. . . . .	449

LWR@BlockClassWP: Fix: Line wrap at	
HTML hyphen. . . . .	371
v0.48	
\@@setcpageref: Fix for new v0.21 of	
cleveref. . . . .	763
\@@setcref: Fix for new v0.21 of	
cleveref. . . . .	762
\@@setcrefrange: Fix for new v0.21	
of cleveref. . . . .	762
\@biblabel: Improved bibliography	
label. . . . .	555
\@item: Honors \makelabel. . . . .	446
\@maketitle: Fix: Errors with	
IEETran class. . . . .	435
\@LWR@LwarpStart: Adjusted space	
around captions. . . . .	423
\@LWR@ProvidesPackageDropB: Fix:	
Options with braces. . . . .	257
\@LWR@addtabularhrulecolor:	
colortbl: Added. . . . .	488
\@LWR@addtabularrulecolors:	
colortbl: Added. . . . .	490
\@LWR@closetabledatacell: colortbl:	
Added. . . . .	461
\@LWR@lookforpackagename: Fix:	
Parsing similar package names. . . . .	254
\@LWR@newautopagelabel: Fix: toc,	
LOF, LOT links. . . . .	391
\@LWR@newhtmlfile: Fix: TOC, LOF, LOT	
links. . . . .	405
\@LWR@nullfonts: Fix: \newline in	
title. . . . .	558
\@LWR@parsedrequirepackagenames:	
Fix: Parsing similar package	
names. . . . .	252
\@LWR@parsestablecols: Fix: Ignore	
optional tabular column	
arguments. . . . .	476
\@LWR@restoreorigformatting: Fix:	
Spacing in SVG math, lateximage,	
Tikz. . . . .	556
\@LWR@section: Fix: toc, LOF, LOT	
links. . . . .	414
\@LWR@tabledatasinglecolumntag:	
colortbl: Added. . . . .	482
\@LWR@textcurrentfont: Added.	
Improves font control. . . . .	625
\centerline: Added. . . . .	599
\l@part: Adapts to classes without	
\part. . . . .	545
\leftline: Added. . . . .	599
\mbox: Nullified for HTML. . . . .	615
\rightline: Added. . . . .	599
\thempfootnote: Removed \itshape. . . . .	387
General: 2018/02/14 . . . . .	1
acronym: Added. . . . .	661
acro: Added. . . . .	658
chapterbib: Added. . . . .	731
colortbl: Added. . . . .	477, 488, 767
fancyref: Now directly supported. . . . .	816
graphics: Fix: Virtual page size	
limited to a group. . . . .	872, 873
hypcap: Added. . . . .	884
hypernat: Added. . . . .	884
hyperref: \texorpdfstring now	
uses the TeX string. . . . .	893
luatodonotes: Improved	
\todototoc. . . . .	952
siunitx: Changes fraction to	
symbol. . . . .	1131
siunitx: Improved svg math. . . . .	1128, 1129
siunitx: Improved color output. . . . .	1128
stfloats: Added. . . . .	1168
todonotes: Improved	
\todototoc. . . . .	1232
vmargin: Added. . . . .	1253
xfrac: Fix: Added groups around	
super/subscripts to localize	
\@nestspan changes. . . . .	1275
Docs: Converting an existing	
document. . . . .	101
Improved font control. . . . .	625, 626
tabular: colortbl: Added. . . . .	512
lateximage: Print mode boxed to	
natural width. . . . .	597
abstract: Allow optional name. . . . .	437
v0.49	
\@LWR@addtabularcellcolor: xcolor:	
Added tabular row colors. . . . .	491
\@LWR@domulticolumn: xcolor: Added	
tabular row colors. . . . .	498
\@LWR@href: Fix: Adapt to classes. . . . .	526
\@LWR@printlength: Fix: Group	
printlen changes. . . . .	252
\@LWR@url: Fix: Adapt to classes. . . . .	527
\affiliation: Fix: Adapts to classes	
which already provide. . . . .	429
\noalign: Fix: \noalign inside	
tabular. . . . .	509
General: 2018/02/19 . . . . .	1
amsmath: Fix: Patches for \eqref. . . . .	669
eso-pic: Fix for	
\AddToShipoutPicture. . . . .	803
figsize: Added. . . . .	826
fnlineno: Added. . . . .	840
hypdestopt: Added. . . . .	884
hyphenat: Added. . . . .	895
lineno: Added. . . . .	932
luacolor: Added. . . . .	948
pagegrid: Added. . . . .	1052

pdfrender: Added. . . . .	1066
reszegather: Added. . . . .	1091
verbars: Added. . . . .	1252
vwcol: Added. . . . .	1254
xcolor: Added tabular row colors. . . . .	477, 1270
Fix: Adapt to classes. . . . .	632
<b>v0.50</b>	
\@ensuredmath: Fix: Use <i>lateximage</i> even if MATHJAX. . . . .	574
Improved SVG math alt tags. . . . .	574
\lwr@footnotetext: Robustify macros. . . . .	385
\lwr@atbeginverbatim: Improved column alignment. . . . .	441
\lwr@dequation: Improved svg math display. . . . .	580
\lwr@doubledollar: Improved svg math alt tags. . . . .	572
Improved SVG math display. . . . .	572
\lwr@htmlrefsectionfilename: Fix: svg math in a section name. . . . .	356
\lwr@newhtmlfile: Fix: svg math in a section name. . . . .	404
\lwr@nullfonts: Fix: \underline in sectioning file name. . . . .	560
\lwr@overline: Added. . . . .	630
\lwr@singledollar: Fix: Use <i>lateximage</i> even if MATHJAX. . . . .	570
Improved SVG math alt tags. . . . .	570
\lwr@singledollarsvg: MD5 hash avoids duplicate SVG math. . . . .	568
\lwr@vspace: Robustify macros. . . . .	636
\newline: Robustify macros. . . . .	633
\textrm: Robustify macros. . . . .	629
\textrm: Robustify macros. . . . .	629
General: 2018/03/03 . . . . .	1
\lwr.css: Improved svg display math centering. . . . .	281
\lwr_one_limage.txt: Added. . . . .	323
amsmath: Fix: Upright tags for svgmath. . . . .	669
axodraw2: Added. . . . .	694
bytefield: Added. . . . .	717
dblfloatfix: Added. . . . .	774
diagbox: Added. . . . .	775
epstopdf: Added. . . . .	799
listings: Force flexible columns. . . . .	935
morefloats: Added. . . . .	1001
nonfloat: Added. . . . .	1036
ntheorem: Fix: Not standard nor amsthm selected. . . . .	1045
pbox: Added. . . . .	1060
phfqt: Added. . . . .	1069
schemata: Added. . . . .	1097
siunitx: Fix: Loads xcolor. . . . .	1127
siunitx: Improved svg math alt tags. . . . .	1129
siunitx: Improved units. . . . .	602, 1128, 1131
xy: Added. . . . .	1284
\lwrpmk: Error if <i>latexitimages.txt</i> does not exist. . . . .	328
\lwrpmk: Error if <i>lwrpmk.conf</i> points to <i>lwrpmk</i> . . . . .	328
\lwrpmk: Improved error messages. . . . .	328
\lwrpmk: MD5 hash avoids duplicate SVG math. . . . .	328
\lwrpmk: Multiprocess support making <i>latexitimages</i> . . . . .	328
AMS environments: Improved svg math display. . . . .	670
Fix: Load <i>fontspec</i> if necessary. . . . .	246
Robustify macros. . . . .	626
\latexitimage: Fix: svg math in a section name. . . . .	595
MD5 hash avoids duplicate SVG math. . . . .	593, 596
\eqnarray: Improved svg math display. . . . .	586
<b>v0.51</b>	
\@ensuredmath: Hashes \ensuremath. . . . .	574
\@item: Restored list label space. . . . .	447
\lwr@HTMLsanitizeexpand: Fix: Escapes double quotes. . . . .	398
\lwr@lwrpStart: MathJax: Nullifies \ensuremath. . . . .	424
\lwr@addbaselinemarker: Improved svg math baseline. . . . .	563
\lwr@atbeginverbatim: Adds vertical offset. . . . .	441
\lwr@dequation: Fix: \addcontentsline inside svg math. Provides an autoid anchor. . . . .	580
\lwr@doubledollar: Fix: \addcontentsline inside svg math. Provides an autoid anchor. . . . .	572
\lwr@findcurrenttextcolor: Added \lwr@findcurrenttextcolor when no xcolor. . . . .	630
\lwr@newautoidanchor: Fix: No autoid is inside a <i>latexitimage</i> . . . . .	532
\lwr@singledollarmathmeasure: Fix: <i>latexitimage</i> inside <i>AMS</i> \text. . . . .	565
Fix: Honors text font around SVG math. . . . .	565
Improved SVG math baseline. . . . .	566
Typeset SVG math only once during measurement. . . . .	565

\LWR@subHTMLsanitize: Fix: Escapes double quotes.	397
\LWR@subsingle dollar: Fix: \ensuredmath inside SVG image.	570
\LWR@subsingle dollarsvg: Fix: SVG math with enclosed lateximage.	567
SVG math baseline improved with invisible rule at corner.	569
\LWR@textcurrentcolor: xcolor: \LWR@textcurrentcolor if xcolor not loaded.	630
\addcontentsline: Add missing support for float mechanism if necessary.	537
No anchor ID if inside SVG image.	537
\displaymathnormal: Processing for complicated display math.	583
\displaymathother: Processing for complicated display math.	583
General: 2018/03/24	1
MATHJAX: Nullifies \ensuremath.	400
\warp_one_limage.txt: pdftocairo -noshrink added.	323
afterpackage: No longer required.	249
chemfig: Added.	732
chemformula: Added.	734
chemgreek: Added.	739
chemmacros: Added.	740
chemnum: Added.	758
epstopdf-base: Added.	799
fancybox: Fix: Optional tag for \item in a span.	812
grid: Added.	877
listings: Forces cleared options.	936
ltxgrid: Added.	947
mhchem: Added.	992
tikz: Fix for \tikz macro.	1208
tikz: Fix for tikz with optional argument.	1208
titling: Fix for \thanks mark.	1218
\warpmk: pdfcrop: Restored hires option.	328
\warpmk: pdftocairo -noshrink added.	328
AMS environments: Fix: \addcontentsline inside SVG math. Provides an autoid anchor.	670
Docs: tikz limitations.	167
Docs: Multiple authors and affiliations.	138
Docs: Things to avoid.	126
Docs: Updated Converting an existing document.	101
Fix: Remember original \# in case is redefined.	270
Named HTML entity used for text dollar.	563
\teximage: Added additional hashing option.	592
Fix: \teximage inside $\mathcal{M}$ S	592
\text.	592
Processing for complicated display math.	595
alignat: amsmath: Fix: Added.	673
eqnarray: Fix: \addcontentsline inside SVG math. Provides an autoid anchor.	586
\LWR@displaymathother: Processing for complicated display math.	575
\LWR@equationother: Processing for complicated display math.	575
v0.52	
\@ensuredmath: Improved hashing expansion.	574
\mpfootnotetext: Fix: Paragraph handling.	387
\CustomizeMathJax: Added.	399
\LWR@footnotetext: Fix: Paragraph handling.	386
\LWR@addbaselinemarker: Warnings if \warp_baseline_marker.png is not present or if graphicx/s not loaded.	563
\LWR@customizedMathJax: Added.	399
\LWR@doequation: Fix: equation* now based on equation instead of displaymath.	580
Fix: equation* with split.	579
\LWR@filenamenoblocks: Fix: \FileDepth with non-utf8 encoding.	396
\LWR@href: Fix: #, %, &, ~, _ in URL.	526
\LWR@nolinkurl: Fix: #, %, &, ~, _ in URL.	526
\LWR@nullfonts: Fix: \texorpdfstring in section names.	560
\LWR@section: Fix: Footnote numbering: Limited HTML comment if starred.	411
Fix: Footnote numbering: Use short toc entry for HTMLDebug comments.	411
\LWR@singledollarmeasure: Added user-adjustable SVG math font scaling.	566
\LWR@url: Fix: #, %, &, ~, _ in URL.	527
\LateximageFontSizeScale: Added user-adjustable SVG math font scaling.	589

\theHTMLTitleSeparator: Fix: \FileDepth with non-utf8 encoding. . . . .	418	\raggedleft: Added debug comment. . . . .	598
General: 2018/04/01 . . . . .	1	\raggedright: Added debug comment. . . . .	599
breakurl: Fix: #, %, &, ~, _ in URL. . . . .	713	General: 2018/04/22 . . . . .	1
endfloat: Updated for v2.6. . . . .	787	*.lwarpmkconf: Option IndexLanguage changed to xindyLanguage. . . . .	280
fancyvrb: Initial support for \VerbatimFootnotes. . . . .	809, 817	*.lwarpmkconf: Option pdftotextEnc added. . . . .	280
graphics: Added defaults. . . . .	866, 867	*.lwarpmkconf: Option xdyFilename changed to xindyStyle. . . . .	280
graphics: Updated for v1.1a. . . . .	867	*.lwarpmkconf: Option xindyCodepage added. . . . .	280
graphics: Updated for v1.1b. . . . .	867	lwarf.css: Fix: Text-decoration-skip: auto. . . . .	281
hyperref: Fix: #, %, &, ~, _ in URL. . . . .	889–891	lwarfmk.conf: Option IndexLanguage changed to xindyLanguage. . . . .	280
nicefrac: Added. . . . .	1031	lwarfmk.conf: Option pdftotextEnc added. . . . .	280
url: Added. . . . .	1249	lwarfmk.conf: Option xdyFilename changed to xindyStyle. . . . .	280
<i>lwarfmk</i> : Fix: Memory overflow when spawning tasks. . . . .	328	*.lwarpmkconf: Option xindyCodepage added. . . . .	280
<i>lwarfmk</i> : Fix: Skip image generation if from page 0. . . . .	328	lwarf.css: Fix: Text-decoration-skip: auto. . . . .	281
Changed FootnoteDepth default to \subsubsection. . . . .	383	lwarfmk.conf: Option IndexLanguage changed to xindyLanguage. . . . .	280
Docs: Improved install instructions. . . . .	82	lwarfmk.conf: Option pdftotextEnc added. . . . .	280
Fix: MATHJAX script line wraps. Reduced right margin. . . . .	247	lwarfmk.conf: Option xdyFilename changed to xindyStyle. . . . .	280
If pdfLaTeX, allow other input encoding. . . . .	228	lwarfmk.conf: Option xindyCodepage added. . . . .	280
Restore \kill in a lateximage. . . . .	946	bibunits: Added. . . . .	705
tabbing: Fix to allow inside lateximage. . . . .	443	chngpage: Added. . . . .	759
lateximage: Fix for hash expansion. . . . .	594	forest: Added. . . . .	847
v0.53		glossaries: Fix when not using babel or polyglossia. . . . .	863
General: 2018/04/01 . . . . .	1	gridset: Added. . . . .	878
<i>lwarfmk</i> : Added <i>lwarfmk cleanimages</i> . . . . .	328	hyperref: Fix: \hyperref and \hyperlink with special chars in text. . . . .	891
<i>lwarfmk</i> : Added warning for corrupted images. . . . .	328	hyperref: Fix: \ref in \hyperref and \hyperlink caused nested link. . . . .	891
Docs: <i>lwarfmk cleanimages</i> . . . . .	98	<i>lwarf-patch-memoir</i> : Update for v3.7g. . . . .	1295
Docs: <i>lwarfmk pdftohtml</i> . . . . .	98	magaz: Added. . . . .	956
v0.54		ragged2e: Fix: \centering, etc. . . . .	1084
\@xdlbfloate: Honor \centering, etc. in floats. . . . .	531	textcomp: Fix for \textratperthousand. . . . .	1193
\LWR@afterendverbatim: Added vspace argument. . . . .	442	tikz: Fixes for \pgfpicture, minipages, fit, align, font. . . . .	1208
\LWR@atbeginverbatim: Improved column alignment. . . . .	441	<i>lwarfmk</i> : Added pdftotextenc. . . . .	328
\LWR@endfloatalignment: Honor \centering, etc. in floats. . . . .	533	<i>lwarfmk</i> : Added xindycodepage. . . . .	328
\LWR@floatalignment: Honor \centering, etc. in floats. . . . .	533	<i>lwarfmk</i> : Changed language to xindylanguage. . . . .	328
\LWR@floatend: Honor \centering, etc. in floats. . . . .	531	<i>lwarfmk</i> : Changed xdyfile to xindystyle. . . . .	328
\LateximageFontSizeName: Defaults to normalsize. . . . .	589	<i>lwarfmk</i> : Improved error if configuration file does not exist.	328
\centering: Added debug comment.	598		

<i>lwarpmk</i> : Increased prominence for error for an unknown command.	328
<i>lwarpmk</i> : Verifies HTML version exists before <i>lwarpmk</i> limages.	328
<i>lwarpmk</i> : Verifies image references before <i>lwarpmk</i> limages.	328
Add: pdftotextEnc.	239
Add: xindyCodepage.	239
Added early check for disallowed packages.	214
Docs: BibTeX.	140
Docs: Macros in sectioning names.	126
Never load aecompl.	214
Option IndexLanguage changed to xindyLanguage.	239
Option xdyFilename changed to xindyStyle.	239
verse: Fix: Line spacing.	439
v0.55	
\@edlbfloat: Fix: Float optional args.	531
\LWR@LwarpStart: Fix: Overfull boxes in lateximages.	422
\LWR@nullfonts: Removed extraneous space which appeared in file links.	560
\LWR@phantomsection: Fix:	
\ForceHTMLTOC with \phantomsection.	639
General: 2018/04/26	1
clrdblpg: Added.	765
Fix: \centering, etc. for koma-script.	530
Fix: QED symbols in lateximage.	678, 1049
v0.56	
\LWR@addcdashline: arydshln:	
Added.	487
\LWR@addmulticolvertrulecolor:	
Adds support for dashed vertical rules.	495
Adds support for double vertical rules.	495
\LWR@addtabularhrulecolor: Adds support for arydshln dashed rules.	488
Adds support for double \hlines and \midrules.	488
\LWR@addtabularrulecolors: Adds support for dashed vertical rules.	490
Adds support for double vertical rules.	490
\LWR@closeparagraph: Added support for parnotes.	376
\LWR@domulticolumn: Adds support for dashed vertical rules.	497
	Adds support for double vertical rules.
	497
\LWR@floatbegin: Adds a <class> per float package style.	530
\LWR@multicolpartext: Fix:	
\multicolumn parameters.	493
\LWR@openparagraph: Added support for parnotes.	374
\LWR@parsebarcolumn: Adds support for double vertical rules.	468
\LWR@parsecoloncolumn: arydshln: Added.	468
\LWR@parsingsemicoloncolumn: arydshln: Added.	469
\LWR@parseablecols: Added array W column.	476
\LWR@printmccoldata: Added array W column.	494
Fix: \multicolumn parameters.	494
\LWR@printmccoltype: Added array W column.	492
Adds support for dashed vertical rules.	492
Adds support for double vertical rules.	492
\LWR@tabledatacolumntag: Fix:	
\morecmidrules	507
\LWR@textcurrentfont: Added span.textbf, etc.	625
General: 2018/05/12	1
*.lwarpmkconf: Records	
--shell-escape.	280
lwarpm.css: Added div.textbf, etc.	281
lwarpm.css: Added span.textbf, etc.	281
lwarpm.conf: Records	
--shell-escape.	280
arydshln: Added.	455, 683
lua-check-hyphen: Added.	948
paralist: Fixes for compactenum, compactitem, compactdesc.	1053
parnotes: Added.	1058
quoting: Added.	1083
tocenter: Added.	1224
underscore: Added.	1242
<i>lwarpmk</i> : Added	
lwarpmk pdftosvg.	328
<i>lwarpmk</i> : Supports	
--shell-escape.	328
Added \thinspace.	631
Docs: <i>lwarpmk pdftosvg</i> .	98
\LWR@blocktextcurrentfont: Added div.textbf, etc.	626

v0.57	
\BlockClassSingle: Improved print/HTML output selection.	370
\InlineClass: Improved print/HTML output selection.	371
\LWR@href: Fix: Text catcodes.	526
\LWR@listof: Fix: Provide \l@name if not defined.	541
\LWR@singledollarmeasure: Fix: Dynamic inline math expressions.	565
\LWR@subhyperref: Fix: Text catcodes.	525
\LWR@subhyperreftext: Fix: Text catcodes.	526
\LWR@subsingledollar: Fix: Dynamic inline math expressions.	570
\LWR@subsingledollarsvg: Fix: Dynamic inline math expressions.	568
\LWR@vspace: Improved print/HTML output selection.	636
\MathImageAltText: Added.	561
\PackageDiagramAltText: Added.	562
\StartDefiningMath: Added.	351
\boxframe: xcolor: Fix: Colored \boxframe.	1270
\colorbox: xcolor: New system for switching print and HTML outputs.	1267
\colorboxBlock: xcolor: New system for switching print and HTML outputs.	1267
\fboxBlock: Improved print/HTML output selection.	618
\fcolorbox: xcolor: New system for switching print and HTML outputs.	1267
\framebox: Improved print/HTML output selection.	617
\inlinemathother: Added.	352
\makebox: Improved print/HTML output selection.	616
\mbox: Improved print/HTML output selection.	615
\multicolumnrow: multirow: Improved print/HTML output selection.	1011
Improved print/HTML output selection.	503
\newfloat: rotfloat: Added float styles.	1095
rotfloat: Fix for listof sideways floats.	1095
\parbox: Improved print/HTML output selection.	615
\raisebox: Improved print/HTML output selection.	621
\reflectbox: Improved print/HTML output selection.	876
\resizebox: Improved print/HTML output selection.	876
\rotatebox: Improved print/HTML output selection.	874
\rule: Fix: Colored rules.	638
\scalebox: Improved print/HTML output selection.	875
\textcolor: xcolor: New system for switching print and HTML outputs.	1266
General: 2018/06/06	1
MATHJAX: Supports \footnote, \footnotemark.	400
\l warp.css: Added ruled, boxed, boxruled floats.	281
\l warp.css: Increased float vertical margins.	281
algorithm2e: Added.	663
bigdelim: Improved print/HTML output selection.	706
breakurl: Fix: Text catcodes.	713
colortbl: New system for switching print and HTML outputs.	767, 768
ellipsis: Added \midwordellipsis.	785
errata: Added.	801
float: Added float styles.	831
float: Fix: Do not pre-define \l@name.	831
\l table: Added.	947
marginnote: Fix: Long optional argument.	959, 960
multirow: Improved print/HTML output selection.	1009
register: Added.	1088
subcaption: Fix: \subref.	890
trimclip: Added.	1235
vowel: Added.	1253
xellipsis: Added.	1272
\xfrac: Improved print/HTML \scalebox control.	1275
\xtabular: Added.	1276
\xpiano: Added.	1278
\l warpmk: Improved code factoring.	328
\l warpmk: Improved error handling.	328
Docs: Recompiling \l warpmk or css files.	197
Docs: Recreating the index for \l warp source.	195
New system for switching print and HTML outputs.	264

minipage: Improved print/HTML	
output selection. . . . .	612
BlockClass: Improved print/HTML	
output selection. . . . .	370
fminipage: Improved print/HTML	
output selection. . . . .	619
LWR@BlockClassWP: Improved	
print/HTML output selection. . .	371
v0.58	
\LWR@HTML@caption@begin: Improved	
print/HTML output selection. . .	535
\LWR@HTML@caption@end: Improved	
print/HTML output selection. . .	536
\LWR@HTML@ref: Improved print/HTML	
output selection. . . . .	523
\LWR@doindexentrysubsub: Adds	
support for \see, \seealso,	
\emph, \textbf, etc. . . . .	551
\LWR@hyperindexrefnullified: Adds	
support for \see, \seealso,	
\emph, \textbf, etc. . . . .	552
\LWR@hyperindexrefsubtwo: Adds	
support for \see, \seealso,	
\emph, \textbf, etc. . . . .	553
\LWR@indexitem: Accepts optional arg	
for repeatindex. . . . .	547
\dotfill: Improved print/HTML	
output selection. . . . .	632
\hfill: Improved print/HTML output	
selection. . . . .	632
\hrulefill: Improved print/HTML	
output selection. . . . .	632
\printindex: Fix: Extra \newpage to	
flush pending \index writes. . .	956
General: 2018/07/07 . . . . .	1
*.lwarpmkconf: Added option	
makeindexstyle. . . . .	280
*.lwarpmkconf: Added options	
makeindex and xindy. . . . .	280
*.lwarpmkconf: Generated	
\AtBeginDocument. . . . .	280
lwarpxdy: Requires	
makeindex.xdy. . . . .	322
lwarpxdy: Supports bold, italic. .	322
lwarpmk.html.list: Added. . . . .	322
lwarpmk.conf: Added option	
makeindexstyle. . . . .	280
lwarpmk.conf: Added options	
makeindex and xindy. . . . .	280
lwarpmk.conf: Generated	
\AtBeginDocument. . . . .	280
array: Improved print/HTML output	
selection. . . . .	682
attachfile2: Added. . . . .	687
attachfile: Added. . . . .	686
v0.59	
\LWR@addbaselinemarker: Uses .eps	
if DVI <i>latex</i> . . . . .	563
\LWR@latextmkcmd: Fix:	
--shell-escape with <i>latextmk</i> . .	275
\LWR@writeconf: Compilation	
commands now preassigned by	
lwarpxdy instead of being computed	
by lwarpmk. . . . .	279
\[: Fix with \displaymathnormal. .	574

General: 2018/09/07 . . . . .	1
Slunits: Added. . . . .	1118
accsupp: Added. . . . .	658
amsmath: Moved from the <i>l warp</i>	
core. . . . .	669
asymptote: Added. . . . .	685
axessibility: Added. . . . .	693
breqn: Added. . . . .	714
bxpapersize: Added. . . . .	716
canoniclayout: Added. . . . .	718
chemformula: Fix for \NMR. . . . .	755
draftcopy: Added. . . . .	779
epstopdf-base: Improved. . . . .	799
epstopdf: Improved. . . . .	799
fnbreak: Added. . . . .	839
graphics: Fix: Expand filename. . . . .	872
graphics: Now works with .pdf and	
.eps filename extensions. . . . .	872
nccfancyhdr: Added. . . . .	1018
pdftricks: Added. . . . .	1067
pst-eps: Added. . . . .	1079
pstricks: Added. . . . .	1080
units: Added support for MathJax. . . . .	1246
xunicode: Added. . . . .	1282
<i>l warpmk</i> : Added	
<b><i>l warpmk epstopdf</i></b> . . . . .	328
<i>l warpmk</i> : Consolidated compiling	
options into printlatexcmd and	
HTMLLatexcmd. . . . .	328
<i>l warpmk</i> : Double instead of	
single-dashed --shell-escape	
option. . . . .	328
<i>l warpmk</i> : Error if <i>l warpmk.conf</i>	
format changed. . . . .	328
<i>l warpmk</i> : Warning if operating	
system changed. . . . .	328
Added option dvipdfmx. . . . .	241
Added option dvipdfm. . . . .	241
Added option dvips. . . . .	241
Docs: <b><i>l warpmk epstopdf</i></b> . . . . .	98
File: <i>l warp_mathjax.txt</i> : Fix:	
Removed chapter number from	
tagged non-numeric MATHJAX	
equations. . . . .	324
File: <i>l warp_mathjax.txt</i> : Updated	
to MATHJAX v2.7.4. . . . .	324
picture: Added an alt tag. . . . .	609
v0.60	
\lWR@clearmidrules: tabular: Fix for	
midrules. . . . .	483
\lWR@parsenormalcolumn: tabular:	
Improved memory management:	
Not using xstring. . . . .	469
\lWR@tabledatausingsinglecolumntag:	
tabular: Improved memory	
management: Not using	
xstring. . . . .	481, 482
\lWR@tabularendofline: Fix:	
Slowdown for long tables. . . . .	465
General: 2018/09/19 . . . . .	1
tabular: Improved memory	
management: Global boolean. . . . .	456
tabular: Improved memory	
management: Not using	
xstring. . . . .	458, 1010
2up: Added. . . . .	652
booklet: Added. . . . .	709
bophook: Added. . . . .	712
diagbox: Fix for par tags. . . . .	776
draftfigure: Added. . . . .	779
fancytabs: Added. . . . .	816
fullminipage: Added. . . . .	853
grid-system: Added. . . . .	878
layaureo: Added. . . . .	921
leading: Added. . . . .	924
listings: Fix for HTML entities. . . . .	936
listings: Fix if inside a list. . . . .	938, 941
thumbs: Added. . . . .	1207
thumb: Added. . . . .	1206
widows-and-orphans: Added. . . . .	1257
v0.61	
\DeclareGraphicsExtensions: Fix:	
EPS for DVI LATEX. . . . .	864
\lWR@HTMLLatexCmd: Added	
HTMLLatexCmd option. . . . .	279
Added PrintLatexCmd option. . . . .	279
\lWR@addcompilecmd: Removed	
spaces. . . . .	275
\lWR@closetabledatacell: Fix: Par	
tags in tabular. . . . .	460
\lWR@hyperindexrefnullified:	
Made robust. . . . .	552
\lWR@listof: Fix: newfloat lists. . . . .	541
\lWRopseq: Added spaces. . . . .	236
\RequirePackage: Support up to 20	
packages. . . . .	255
\inlinemathnormal: Changed name	
from \StopDynamicMath to	
\inlinemathnormal. . . . .	352
\inlinemathother: Changed name	
from \StartDynamicMath to	
\inlinemathother. . . . .	352
\l warpsetup: Added. . . . .	237
General: 2018/10/13 . . . . .	1
l warp.css: Footnotes text align	
left. . . . .	281
l warp.css: Minipage table and	
footnotes: tighter margin. . . . .	281
chkfloat: Added. . . . .	759
cmdtrack: Added. . . . .	766

copyrightbox: Added. . . . .	769
dprogress: Added. . . . .	779
epsfig: Added. . . . .	798
graphics: Fix: EPS for dvi LATEX. .	869
graphics: Set keys before using filename, for epsfig. . . . .	872
lua-visual-debug: Added. . . . .	948
pdfprivacy: Added. . . . .	1066
psfragx: Added. . . . .	1079
psfrag: Added. . . . .	1078
pstool: Added. . . . .	1080
refcheck: Added. . . . .	1088
srcTx: Added. . . . .	1152
srcTeX: Added. . . . .	1153
supertabular: Fix for caption w/o opt arg. . . . .	1176
thinsp: Added. . . . .	1201
threadcol: Added. . . . .	1204
uspace: Added. . . . .	1249
vpe: Added. . . . .	1254
xbmks: Added. . . . .	1261
xtab: Fix for caption w/o opt arg. .	1281
Added HTMLLatexCmd option. . . . .	240
Added PrintLatexCmd option. . . . .	240
Docs: \tracingl warp . . . . .	260
Docs: HTML entities. . . . .	127
Docs: Compiling using custom shell commands. . . . .	183
Docs: Fonts. . . . .	103
Docs: HTMLDebugComments . . . . .	113, 260
Docs: Multiple indexes. . . . .	206
Don't write configuration files if processing pstool image. . . . .	273
Spaces redefined \AtBeginDocument. . . . .	631
<b>v0.62</b>	
\@partcntformat: Added for ctex. .	409
\@partnameformat: Added for ctex. .	410
\InlineClass: Added optional word-processing style. Replaces \LWR@HTMLtextstyle. . . . .	371
\LWR@PreloadedPackage: Added. . .	599
\LWR@ProvidesPackagePass: Fix: Unknown option error. . . . .	257
\LWR@endofline: Extra space if optional arg. . . . .	633
\LWR@filestart: Refactored. . . . .	420
\LWR@isolate: Added. . . . .	232
\LWR@textcurrentfont: Added print version. . . . .	631
Tracks depth to avoid nesting repeated font changes. . . . .	625
\colorboxBlock: xcolor: Fix: Horiz white space. . . . .	1267
\fcolorbox: Fix: No longer requires xifthen. . . . .	605
\fcolorboxBlock: xcolor: Fix: Horiz white space. . . . .	1268, 1269
\l@chapter: Don't define if no \chapter. Fix for algorithm2e. . .	545
\slshape: Added. . . . .	628
\textup: Fixed WP span class. . . . .	623
\theHTMLSection: Added. . . . .	418
\theHTMLTitleSection: Added. . . . .	418
\theHTMLTitleSeparator: Refactored. . . . .	418
<b>General: 2018/11/19</b>	1
\textbf and related: Improved font detection. . . . .	621
\l warp.css: Added css for xfrac, nicefrac. . . . .	281
\l warp.css: Fixed css for \textup. .	281
\l warp.css: Reduced margins in titlepage. . . . .	281
\l warp_formal.css: Fix: Font for verse. . . . .	317
2in1: Added. . . . .	652
CJKutf8: Prevented unless xeCJK. .	760
CJK: Prevented unless xeCJK. . . . .	760
asymptote: Improved alt tags. . .	685
bitpattern: Added. . . . .	707
calc: Fix: Required for print version. . . . .	249
chngpage: Fix: Loads \l warp-chngpage. . . . .	759
\ctexpatch: Added patch. . . . .	646
\flippdf: Added. . . . .	830
graphics: Fix: Filename expansion. .	870
graphics: Fix: FormatWP. . . . .	869
musicography: Added. . . . .	1012
nicefrac: Improved font control and css, honors nice, ugly. . . . .	1031
notespages: Added. . . . .	1037
octave: Added. . . . .	1050
pdfcomment: Added. . . . .	1062
pdfmarginpar: Added. . . . .	1063
register: Updated to v1.8. . . . .	1088
\viewport: Added. . . . .	1095
semantic-markup: Added. . . . .	1108
\textcomp: Fix conflict with xunicode. . . . .	1195
\tram: Added. . . . .	1234
\twoup: Added. . . . .	1237
\ulem: Improved compatibility with CJkulem. . . . .	1239
\ulem: Now works in a lateimage. . . . .	1239
\unitsdef: Added. . . . .	1247

units: Improved font control and css, honors loose, tight. . . . .	1246	lwarp.css: Added css for vertical writing. . . . .	281
xcolor: Fix: Horiz white space. . .	1269	lwarp.css: Improved css for mdframed. . . . .	281
xexchangebar: Added. . . . .	1272	amsthm, mdframed: Fix for enforced load order. . . . .	673
xfrac: Improved css. . . . .	1275	emumitem: v3.6: Nullify \DrawEnumitemLabel. . . . .	796
xunicode: Fix conflict with textcomp. . . . .	1282	everyhook: Fix for bxjs* classes. . .	250
Added early checks for CJK, CJKTf8. . . . .	214	geometry: Fix for bxjs* classes. . .	248
Docs: asymptote. . . . .	169	mdframed: Avoid thin rules. . . . .	979
Docs: miktex-poppler-bin-* . . . . .	85	mdframed: Improved font control. . . . .	982–984
Docs: <i>MiKTeX Console</i> . . . . .	81	stfloats: Adapted to ltj* classes. . .	1168
Docs: Improved MiKTEX install instructions. . . . .	81	xpinyin: Added. . . . .	1278
Docs: UTF-8 locale. . . . .	186	zhlineskip: Added. . . . .	1285
File: lwarp_mathjax.txt: Removed inoperable siunitx extension. . . . .	324	Added pTeXsupport. . . . .	210
Logos: CSS instead of <sup>, <sub>. . . . .	640	Docs: \linkhomename. . . . .	113
Logos: Fix for XeTeX logo if graphics is not loaded. . . . .	640	Docs: \sidetocname. . . . .	115
Logos: Improved CSS. . . . .	640	Fix: Default \LWR@mdfive. . . . .	227
Logos: Made robust. . . . .	640	Improved titles. . . . .	982
fcolorminipage: xcolor: Fix: Horiz white space. . . . .	1270	pTeX: Encoding. . . . .	228
Fix: No longer requires xifthen. . .	607	pTeX: Load upquote. . . . .	230
fminipage: Fix: Horiz white space. .	620	pTeX: No newunicodechar. . . . .	229
\LWR@blocktextcurrentfont: Added print version. . . . .	631	\LWR@BlockClassWP: Fix for xeCJK. . .	371
<b>v0.63</b>		<b>v0.64</b>	
\LWR@HTMLLatexCmd: ujarticle and related: Compile options. . . . .	279	\LWR@HTMLLatexCmd: utarticle and related: Added. . . . .	279
\LWR@LwarpStart: Fixes for xeCJK. .	422	\LWR@checkloadfilename: Prevented bitfield, doublespace, newthm, rplain, si. . . . .	253
\LWR@atbeginverbatim: Fix for xeCJK. . . . .	441	\LWR@section: Support for ujarticle and related. . . . .	413
\LWR@checkloadbefore: Added. . . . .	212	\enskip: Made robust. . . . .	634
\LWR@checkloadfilename: Added to reduce number of lwarp-* files. . .	253	\qqquad: Made robust. . . . .	634
\LWR@compileuplatex: Added. . . . .	276	\quad: Made robust. . . . .	634
\LWR@createautosec: Fix for xeCJK. .	408	\theHTMLTitleSeparator: Added utarticle and related. . . . .	418
\LWR@earlyclassloadnever: Added. . .	213	General: 2018/12/08 . . . . .	1
\LWR@filestart: Fix: Break ligature for luatexo. . . . .	420	addlines: Updated to v0.3. . . . .	663
\LWR@firstoffive: Added. . . . .	232	biblatex: Added patch for CTeX. . .	701
\LWR@htmlclosecomment: Fix: Break ligature for luatexo. . . . .	367	bsheaders: Added. . . . .	715
\LWR@isolate: Fix for xeCJK. . . . .	232	gmeometric: Added. . . . .	863
\LWR@notltjloadafter: Added more classes. . . . .	211	marginal: Added. . . . .	958
Added. . . . .	211	rmpage: Added. . . . .	1093
\LWR@subhmtlelementclass: Fix for xeCJK. . . . .	368	scrlayer-scrpage: Fixes. . . . .	1104
\LinkHome: Fix: Print version. . . . .	357	scrlayer: Fixes. . . . .	1102
\linkhomename: Added. . . . .	356	scrpage2: Added. . . . .	1105
General: 2018/12/03 . . . . .	1	ujarticle and related: Improved \today. . . . .	645
		Added utarticle and related. . . . .	645
		<b>v0.65</b>	
		\LWR@LwarpEnd: Improved css for page layout. . . . .	425

\LWR@LwarpStart: Improved css for page layout.	424
\LWR@PreloadedPackage: \AtBeginDocument to avoid option clashes.	599
\LWR@hyperindexrefnullified: Added \textsi.	552
\LWR@newhtmlfile: Error if duplicate file name.	403
Improved css for page layout.	403, 406
\LWR@nullfonts: Added \textsi.	558
\LWR@restoreorigformatting: Fix: tabular*.	557
\enskip: Changed to Unicode EN SPACE.	634
\quad: Changed to Unicode EM SPACE.	634
\sishape: Added \sishape.	628
\textsi: Added.	624
General: 2018/12/22	1
lwarp.css: Added \sishape, \textsi.	281
lwarp.css: Improved css for page layout.	281
lwarp.css: Improved css for quotations.	281
lwarp.css: Siderocto left for improved \marginpars.	281
lwarp_formal.css: Siderocto left for improved \marginpars.	317
lwarp_sagebrush.css: Siderocto left for improved \marginpars.	313
boundddv: Added.	712
embrac: Added.	786
footnoterange: Added.	846
gentombow: Added.	858
geometry: Fix for bxjs* classes.	248
graphics: Added \includegraphics alt key.	604, 865, 867, 868, 871, 872
lltjtext: Added.	942
multicolrule: Added.	1006
multicol: Added \docolaction.	1006
plarydshln: Added.	1075
plextrydshln: Added.	1076
plextblcolor: Added.	1076
plex: Added.	1075
pxatbegshi: Added.	1081
pxeveryshi: Added.	1081
pxftnright: Added.	1082
pxjahyper: Added.	1082
tascmac: Added.	1183
versionotes: Added.	1252
Added early checks for jarticle, tarticle, and related.	214
Fix for \rensuzi.	645
Fix space between class and id.	371
\tabular: Added support for plect.	510
Fix: tabular*.	510
Fix: Rule color.	512
\minipage: Refactored to later allow Japanese <t/y> argument.	612
\LWR@figcaption: Uses <figurecaption> instead of <figcaption>.	535
v0.66	
\@mpfootnotetext: Improved HTML formatting.	387
\IgnoreMinipageWidths: Added,	612
\LWR@footnotetext: Improved HTML formatting.	385
\LWR@LwarpStart: Fix: TOC, LOF, LOT links.	425
\LWR@checkloadfilename: Prevented colortab, epsf, hyper, picinpar, picins, sistyle, ucs.	253
\LWR@closeparagraph: Fix: Combined span, tabular, and lateximage.	376
Improved HTML formatting.	375
\LWR@closeparagraph@br: Factored.	374
\LWR@fboxstyle: Use current text color.	617
\LWR@filenamenoblocks: Fix: Section names detokenized.	394
Fix: Section names with macros.	395
Fix: Section names with percent.	395
Improved file name generation.	393
Limits filename length.	396
\LWR@findcurrenttextcolor: Fix: Color if xcolor not loaded.	630
\LWR@htmlfileref: No longer use zref.	518
\LWR@htmlsectionfilename: Sanitize underscores.	355
\LWR@hyperindexrefsbtwo: Fix: Long index entries.	553
\LWR@indentHTML: Added.	364
\LWR@lateximagedepthref: No longer use zref.	518
\LWR@lateximagenumberref: No longer use zref.	518
\LWR@nameref: No longer use zref.	518
\LWR@nullfonts: Logos.	560
\LWR@openparagraph: Improved HTML formatting.	374
\LWR@section: Fix: TOC, LOF, LOT links.	414
Improved HTML formatting.	414
\LWR@setexparray: Fix with \par.	350
\LWR@setref: No longer use zref.	518
\LWR@simplifyname: Added.	392

\LWR@startref: No longer use zref.	521
\LWR@stopars: Improved HTML formatting.	378
\LWR@subhtmlelementclass: Improved HTML formatting.	368
\LWR@subhyperrefclass: Improved HTML formatting.	526
\LWR@subinlinetext: Improved HTML formatting.	527
\LWR@write@lwarplabel: No longer use zref.	518
\LWR@writeconf: Added ImagesDirectory and ImagesName.	279
\LinkHome: Fix: Document cross-references.	357
\UseMinipageWidths: Added,	612
\fbox: Fix: Removed extra space.	618
\minipagewidth: Made \global.	611
\rotatebox: Improved HTML formatting.	875
\rule: Improved HTML formatting.	638
\scalebox: Improved HTML formatting.	876
\textgreater: Made robust.	353
\textless: Made robust.	353
General: 2019/02/08	1
\LWR@currentautosecpage: Fix for LOF, LOTfloat in home page.	390
\lwarf.css: Added niceframe.	281
\lwarf.css: Improved css for definition lists.	281
\lwarf_formal.css: Improved css for table notes.	317
\lwarf_one_limage.txt: Image directory and prefix.	323
\acronym: Fix for acronym in caption.	661
\acronym: No longer uses zref.	661
\ar: Added.	680
\ed: Added.	785
\extramarks: Updated to v3.10.	807
\fancyhdr: Updated to v3.10.	813
\fancyvrb: Improved HTML formatting.	810
\graphics: Improved HTML formatting.	872
\kotexutf: Patch for references.	647
\memoir: Docs re: version numbers.	177
\multicolrule: Updated for v1.2.	1006
\nameauth: Added.	1015
\register: Verified for v1.9.	1088
\subcaption: Added.	1169
\tocbasic: Updated to v3.26a.	1220
\truncate: Added.	1236
\zref: No longer used.	251
\lwarpmk: Added ImagesDirectory and ImagesName.	328
\lwarpmk: Fix for <b>cleanimages</b> .	328
Added early checks for colortab, epsf, hyper, picinpar, picins, sistyle, ucs.	214
Added option ImagesDirectory.	239
Added option ImagesName.	239
Added support for indentfirst.	379
Docs: Updated Converting an existing document.	101
Fix: Minipages inside multicols.	1006
Improved HTML formatting.	818
Package dates added where possible.	652
Sanitize filenames.	242
\tabular: Fix: Minipages inside tabular.	513
\lateximage: Added \BaseJobname for multiple projects.	592
Improved HTML formatting.	593
\minipage: Honor \LWR@forceminipagewidth.	613
v0.67	
\FilenameNullify: Added.	560, 631
\FilenameSimplify: Added.	393, 402
\LWR@doequation: xfakebold: Added support.	580
\LWR@doubledollar: xfakebold: Added support.	573
\LWR@filenamenoblocks: Improved file name generation.	393
\LWR@lookforpackagename: easyReview: Supported.	254
\LWR@nullfonts: Add'l symbols.	558
\LWR@simplifycustom: Added.	393
\LWR@subsingledollar: xfakebold: Added support.	570
\LWR@subsingledollarsvg: xfakebold: Added support.	568, 569
General: 2019/02/23	1
\academicons: Added.	655
\bbding: Added.	696
\changes: Added.	726
\color: Fix for version number.	767
\dingbat: Added.	777
\euromsym: Added.	806
\fitbox: Added.	827
\fontawesome5: Added.	842
\fontawesome: Added.	841
\foreign: Added.	847
\gloss: Added.	861
\karnaugh-map: Added.	907

marvosym:	Added.	960	
multicap:	Added.	1005	
nomencl:	Added.	1035	
notes:	Added.	1036	
pifont:	Added.	1074	
struktex:	Added.	1168	
textcomp:	Nullify in filenames.	1195	
typicons:	Added.	1239	
umoline:	Added.	1241	
xfakebold:	Added support.	562	
xfakebold:	Added.	1273	
xunicode:	Nullify in filenames.	1282	
AMS environments:	Added xfakebold support.	670	
eqnarray:	xfakebold:	Added support.	586
v0.68			
\LWR@footnotetext:	Factored for multiple foot boxes.	385	
\LWR@checkloadfilename:	Prevented alg, algorithmic, fncylab, pdfcprot.	253	
\LWR@printpendingfootnotes:	Factored for multiple footnote boxes.	388	
\LWR@tabular@warpprintonly:	Added.	510	
General:	2019/03/05	1	
bigfoot:	Added.	706	
fnpara:	Added.	840	
footnotebackref:	Added.	846	
layouts:	Added.	921	
listings:	Fix for listings v1.7.	941	
longtable:	Improved error handling.	945	
manyfoot:	Added.	957	
niceframe:	Added.	1031	
perpage:	Added.	1068	
showtags:	Added.	1112	
tablefootnote:	Added.	1179	
threeparttablex:	Added.	1206	
threeparttable:	Fix for caption type.	1205	
<i>lwarpmk</i> :	Improved error handling if incomplete compile.	328	
Prevented alg, algorithmic, fncylab, pdfcprot.		214	
tabular:	Fix: \warpprintonly inside tabular.	512	
v0.69			
\LWR@maybetocdata:	Added support for tocdata.	543	
\framebox:	Fix: Handle paren arg.	617	
\hypertoc:	Added support for tocdata.	544	
\hypertocfloat:	Added support for tocdata.	545	
\makebox:	Fix: Handle paren arg.	616	
\multicolumnrow:	multirow: Error if \multirow without \mrowcell.	1011	
General:	2019/03/21	1	
array:	Fix for \tabularnewline.	682, 945	
ctable:	Added.	770	
eqlist:	Added.	800	
eqparbox:	Added.	800	
ftcap:	Added.	853	
graphics:	Warning if using scale option.	867	
keyfloat:	Updated for v2.00.	911	
listliketab:	Added.	942	
minitoc:	Added.	996	
multirow:	Error if \multirow without \mrowcell.	1009	
rotating:	Requires graphicx.	1094	
supertabular:	Fix: Clear caption after use.	1177	
tabularx:	Require array.	1180	
tabulary:	Require array.	1180	
tocdata:	Added.	1223	
topcapt:	Added.	1233	
xtab:	Fix: Clear caption after use.	1282	
tabular:	Error if \multirow without \mrowcell.	511, 513, 515	
lateximage:	Fix for <i>pdftotext</i> errors from font size change.	596	
fminipage:	Honors \minipagewidth.	620	
v0.70			
\LWR@closeparagraph:	Reduced underfull \hbox warnings.	375	
\LWR@lookforpackagename:	changes: Updated to v3.1.2.	254	
\LWR@mathjaxfilename:	Added.	380	
\LWR@restoreorigformatting:	Fix: \& in a lateximage.	556	
\MathJaxFilename:	Added.	380	
\enddocument:	If labels changed, require recompile before making limages.	426	
\framebox:	Fix: Accept long arg.	617	
\makebox:	Fix: Accept long arg. Fix: Ignore width of 0pt.	616	
	Fix: No width given.	616	
General:	2019/04/03	1	
autonum:	Added.	691	
changelayout:	Added.	725	
changes:	Updated to v3.1.2.	726	
inputrc:	Added.	903	
mathtools:	Added.	969	

metalogox: Added. . . . .	990	\chapter: Added support for hypbmsec. . . . .	416
metalogo: Used in print mode. .	990	\ebweight: nfssext-cfr: Added. . . . .	626
textcomp: Fix for \textinterrobang. . . . .	1193	\hypertoc: Fix: References for xr, xr-hyper. . . . .	544
textpos: Added optional arg to textblock. . . . .	1197	\hypertocfloat: Fix: References for xr, xr-hyper. . . . .	545
xunicode: Fix for \textinterrobang. . . . .	1282	\lgweight: nfssext-cfr: Added. . . . .	626
AMS environments: Refactored. .	670	\paragraph: Added support for hypbmsec. . . . .	417
Ensure vector font. . . . .	229	\part: Added support for hypbmsec. .	416
File: l warp_mathjax.txt: Loads autoload-all.js extension. . .	324	\section: Added support for hypbmsec. . . . .	417
File: l warp_mathjax.txt: Updated to MATHJAX v2.7.5. . . . .	324	\ subparagraph: Added support for hypbmsec. . . . .	417
Logos: Improved for metalogox, latexam images. . . . .	640	\ subsection: Added support for hypbmsec. . . . .	417
LWR@nestspan: Improved minipage, \parbox inside a span. . . . .	365	\subsubsection: Added support for hypbmsec. . . . .	417
<b>v0.71</b>		\textsubsub: Added support for hypbmsec. . . . .	417
\@mpfootnotetext: Improved HTML formatting. . . . .	387	\texteb: nfssext-cfr: Added. . . . .	622
Reduced underfull \hbox warnings.	387	\textlg: nfssext-cfr: Added. . . . .	622
\LWR@closeparagraph: Flush left captions. . . . .	375	\textulc: fontaxes: Added. . . . .	624
\LWR@closetabledatacell: Fix: Tabular par tags. . . . .	460	\ulcshape: fontaxes: Added. . . . .	628
\LWR@stoppars: Reduced underfull \hbox warnings. . . . .	378	General: 2019/06/08 . . . . .	1
\expandcols: Added support for tabular '*' column. . . . .	471	l warp.css: Added backnaur. . . . .	281
General: 2019/04/29 . . . . .	1	l warp.css: Removed unneeded support for \sisshape, \textsi. .	281
caption: Reduced underfull \hbox warnings. . . . .	719	backnaur: Added. . . . .	694
chemfig: Updated to v1.4. . . . .	732	boxedminipage2e: Added support for latexam images. . . . .	712
endfloat: Updated for v2.7. . . . .	787	changes: Fix references for xr, xr-hyper. . . . .	726
l warp-common-multimedia: Added. . . . .	1318	fontaxes: Added. . . . .	625, 843
media9: Added. . . . .	987	gloss: Fix references for xr, xr-hyper. . . . .	861
movie15: Added. . . . .	1003	hypbmsec: Added. . . . .	883
multimedia: Added. . . . .	1007	minibox: Added. . . . .	995
textpos: Updated for v1.9.1. . .	1197	nfssext-cfr: Added. . . . .	1024
<i>l warpmk</i> : If wrong l warpmk.conf version, or wrong OS, displays the print command to recompile. . .	328	nomencl: Fix references for xr, xr-hyper. . . . .	1035
Docs: Error testing. . . . .	199	pdfcrypt: Added. . . . .	1063
quotation: Fix: blockquotation tag. .	438	shapepar: Added. . . . .	1112
<b>v0.72</b>		slantsc: Added. . . . .	1147
\LWR@newautopagelabel: Fix: References for xr, xr-hyper. . . . .	391	soulutf8: Fix: Loads soul. . . . .	1150
\LWR@printmccoldata: Fix: \multicolumn parameters. . . . .	494	tabfigures: Added. . . . .	1179
\LWR@restoreorigformatting: Use \LWR@formatted for \bfseries, etc. . . . .	556	xr-hyper: Added. . . . .	1280
		xr: Added. . . . .	1280
		zhlineskip: Updated to v1.0e. . .	1285
		Use \LWR@formatted for \bfseries, etc. . . . .	270, 626
<b>v0.73</b>		@include: Fix: \newpage instead of \clearpage. . . . .	259
		\HTMLTitle: Added default title if none specified. . . . .	381

\LWR@LwarpStart: Fix: Empty	
header/footer. . . . .	424
\LWR@addbaselinemarker: Improved	
warning messages. . . . .	563
\LWR@createfooter: Fix: Empty	
header/footer. . . . .	402
\LWR@descitem: Fix: HTML tags. . . . .	449
\LWR@forceemptyline: Added. . . . .	232
\LWR@gsavebox: Added global save	
boxes. . . . .	233
\LWR@htmlelementclass: Vertical	
space. . . . .	368
\LWR@htmlelementclassline: Vertical	
space. . . . .	369
\LWR@indentHTMLtwo: Added. . . . .	364
\LWR@indexitem: Fix: Avoid empty	
<span>. . . . .</span>	547
\LWR@indexsubitem: Fix: Avoid empty	
<span>. . . . .</span>	547
\LWR@indexsubsubitem: Fix: Avoid	
empty <span>. . . . .	547
\LWR@newhtmlfile: Fix: Empty	
header/footer. . . . .	405
\LWR@nullfonts: Fix: \hspace in	
sectioning file name. . . . .	560
\LWR@titlingmaketitle: titling: Fix:	
Paragraph tags. . . . .	435, 1219
Fix: Paragraph tags. . . . .	435
\attribution: Fix: Paragraph tags. . . . .	437
\color: xcolor: Added HTML	
support. . . . .	1266
\fboxBlock: Fix: Paragraph tags. . . . .	618
\hspace: Fix: Avoid empty <span>. . . . .	635
\l@book: Added \book for memoir. . . . .	545
\maketitle: titling: Fix: Paragraph	
tags. . . . .	1218
Fix: Paragraph tags. . . . .	434
\marginparBlock: Fix: Paragraph	
tags. . . . .	389
\postbookname: Added \book for	
memoir. . . . .	415
\printthanks: Fix: Paragraph tags. . . . .	430
\rule: Fix: Avoid empty <span>. . . . .	639
General: 2019/07/11 . . . . .	1
lwarp.css: Added \book for	
memoir. . . . .	281
lwarp.css: Improved pkgtocdata	
formatting. . . . .	281
lwarp_formal.css: Added \book	
for memoir. . . . .	313, 317
boxedminipage2e: Fix: Paragraph	
tags. . . . .	712
epigraph: Fix: Paragraph tags. . . . .	797
fancyvrb: Fix: Nested	
<div>/<pre>. . . . .	819, 822
fancyvrb: Btrivlist: Fixed	
paragraph tags. . . . .	811
intopdf: Updated to v0.2.1. . . . .	904
listings: Fix: Paragraph tags. . . . .	940
l warp-common-multimedia: Fix:	
No size for audio file. . . . .	1319, 1320
l warp-common-multimedia: Fix:	
Paragraph tags. . . . .	1321
l warp-patch-komascript: Fix for	
captions. . . . .	1288
l warp-patch-memoir: Added	
\book. . . . .	1295
l warp-patch-memoir: Fix for	
\frontmatter* and	
\mainmatter*. . . . .	1296
lyluatex: Added. . . . .	954
musicography: Updated to	
2019/05/28. Now supports	
lateximages. . . . .	1012
quotchap: Fix: Paragraph tags. . . . .	1083
quotchap: Updated to v1.2. . . . .	1082
quoting: Fix: Paragraph tags. . . . .	1083
scrextend: Fix: Paragraph tags. . . . .	1100
stackengine: Added. . . . .	1154
threeparttable: Added	
measuredfigure. . . . .	1205
tocdata: Honors \tocdataformat. . . . .	1223
tocdata: Improved formatting. . . . .	1223
tocdata: Updated to v2.03. . . . .	1223
versonotes: Updated to v0.4. . . . .	1252
vwcol: Fix: Paragraph tags. . . . .	1255
xy: Fix for \xybox. . . . .	1284
xy: Improved xy, reverted	
\ymatrix, for qcircuit. . . . .	1284
Added \book for memoir. . . . .	346, 362
AMS environments: Fix: alt tags. . . . .	670
AMS environments: Fix: Paragraph	
tags. . . . .	670, 671
Numbered HTML entity used for	
text dollar. . . . .	563
tabular: Fix and warning for tabular	
inside a <span>. . . . .	510
\LWR@blocktextcurrentfont: Fix:	
Paragraph tags. . . . .	626
\LWR@nestspan: Fix: quote, quotation	
inside a span. . . . .	365

v0.74

\@ensuredmath: Add \ThisAltText. . . . .	574
\AltTextClose: Added. . . . .	561
\AltTextOpen: Added. . . . .	561
\ImageAltText: Added. . . . .	561
\LWR@ThisAltText: Add	
\ThisAltText. . . . .	561
\LWR@addlinktitle: Added. . . . .	521

\LWR@doequation: Add		
\ThisAltText. ....	580, 581	
\LWR@doubledollar: Add		
\ThisAltText. ....	573	
\LWR@lateximage@oneimage: Factored		
from lateximage. ....	591	
\LWR@lateximage@oneimageb:		
Factored from lateximage. ....	591	
\LWR@setcurrentfont: Factored. .	562	
\LWR@singledollar: Add		
\ThisAltText. ....	573	
\LWR@singledollarmeasure: Fix: Font		
control. ....	565	
\LWR@subinlineimage: Add		
\ThisAltText. ....	527	
\LWR@subsingledollar: Add		
\ThisAltText. ....	571	
\LWR@subsingledollarsvg: Adds star		
argument for lateximage. ....	568	
\LateximageFontScale: Adjusted svg		
math font scaling default to 1. .	589	
\MathImageAltText: Renamed from		
\mathimage. ....	561	
\PackageDiagramAltText: Renamed		
from \packagediagramname. .	562	
\ThisAltText: Add \ThisAltText. .	561	
\hspace: Ignore negative space. .	634	
General: 2019/09/02 . . . . .	1	
lwarf.css: Added lyluatex. ....	281	
amsmath: Add \ThisAltText. .	671	
forest: alt text. ....	847	
geometry: Remembers user's		
geometry. ....	858	
graphics: Add		
\ThisAltText. ....	867, 872, 873	
lyluatex: Adapts to user's geometry.	954	
lyluatex: Preserves left margin. .	954	
lyluatex: Renamef		
\lyluateximage. ....	954	
lyluatex: Split system images,		
assign class. ....	954	
mhchem: Modified for new		
lateximage. ....	992	
pdffpages: Adjust to user's paper		
size. ....	1066	
stackengine: alt tags. ....	1154	
struktex: alt text. ....	1168	
tikz: Added alt text. ....	1208	
<i>lwarfmk: lwarfmk clean removes</i>		
add'l files. ....	328	
<i>lwarfmk: lwarfmk epstopdf and</i>		
pdftosvg honor directories. .	328	
<i>Remembers user's geometry. .</i>	247	
<i>lateximage: Add \ThisAltText. .</i>	597	
	Added second starred	
	argument. ....	592, 597
	Improved alt text. ....	594
	New syntax for	
	\LWR@subinlineimage. ....	596
	eqnarray: Add \ThisAltText. ....	586
	LWR@displaymathother: Uses	
	\MathImageAltText. ....	575
	LWR@equationother: Uses	
	\MathImageAltText. ....	575
v0.75		
	\normalcolor: xcolor: Added for	
	HTML. ....	1264
	General: 2019/09/23 . . . . .	1
	lwarf.css: Improved	
	marginblock. ....	281
	keyfloat: Fix: \normalcolor. ....	911
	wrapfig: Fix for \linewidth. ....	1260
	wrapfig: Fix for width. ....	1259
	minipage: Fix: \linewidth. ....	614
v0.76		
	General: 2019/10/08 . . . . .	1
	lwarf.css: Fix for small caps. .	281
	acro: Updated for v2.10. .	659
	xr-hyper: Updated for v6.1. .	1280
	xr: Updated for v5.05 and xr-hyper	
	v6.1. ....	1280
	Docs expanded: Multiple projects.	98
	File: lwarf_mathjax.txt: Updated	
	to MATHJAX v2.7.6. ....	324
v0.77		
	General: 2019/10/15 . . . . .	1
	booktabs: Updated to v1.6180339.	710
	chemformula: Updated to v4.15.	735
v0.78		
	\LWR@linkcatcodes: babel-french:	
	Fix: Hyperlinks. ....	525
	Factored. ....	525
	\LWR@linkmediacatcodes:	
	babel-french: Fix: Hyperlinks. .	525
	Factored. ....	525
	\LWR@nullifyNoAutoSpacing:	
	babel-french: Fix: Hyperlinks. .	510
	\LWR@subhyperrefclass: Remove	
	extra space. ....	526
	\normalfont: Uses \LWR@formatted.	628
	General: 2019/11/07 . . . . .	1
	accessibility: Added. ....	657
	babel-french: Fix: Hyperlinks. .	363
	caption: Added warning regarding	
	passing options. ....	718
	filecontents: Fix to overwrite	
	existing files using new	
	filecontents environment. .	250

geometry:	Cleaner option handling. . . . .	859
graphics:	Fix: alt tag expansion. . .	872
l warp-common-multimedia:	Fix links with new LaTeX kernel. . .	1319
titlesec:	Fix for \titleclass. . .	1214
v0.79		
\CustomizeMathJax:	Fix: Sanitize for HTML. . . . .	399
\LWR@ProvidesPackagePass:	Fix: catoptions. . . . .	257
\LWR@checkloadfilename:	Prevented bxcjkjatype, hangul. . . . .	253
\LWR@closetabledatacell:	Fix: Nested tabulars. . . . .	461
\LWR@customizeMathJax:	MathJAX: Hide definitions. . . . .	401
\LWR@forcenewautoidanchor:	Factored. . . . .	532
\LWR@mathjaxwarn:	Warn if using packages partially supported by MATHJAX. . . . .	649
\LWR@parseaftercolumn:	Remove outermost braces. . . . .	468
\LWR@parseatcolumn:	Remove outermost braces. . . . .	466
\LWR@parsebangcolumn:	Remove outermost braces. . . . .	467
\LWR@parsebeforecolumn:	Remove outermost braces. . . . .	467
\LWR@setexpparray:	Fix: Nested tabulars. . . . .	350
\LWR@singledollarmeasure:	Factored. . . . .	565
\LWR@subHTMLsanitize:	Fix: \&. Factored. . . . .	397
\LWR@subsingledollarsvg:	Adjust for unknown size. . . . .	568
	Factored. . . . .	567
\LWR@tabularendofline:	Fix: Nested tabulars. . . . .	464
\captionlistentry:	Fix: Duplicate auto-id. . . . .	536
\macrotocname:	Added. . . . .	234
\makebox:	Fix: Adjust for virtual page size. . . . .	616
\multicolumnrow:	multirow: Fix: Nested tabulars. . . . .	1011
\noalign:	Fix: Nested tabulars. . .	509
General:	2020/02/01 . . . . .	1
MATHJAX:	Additional macros. . . . .	400
l warp.css:	Fix: Nested tabulars. . .	281
amsmath:	Added MATHJAX emulation. . . . .	673
arydshln:	Added MATHJAX emulation. . . . .	684
ar:	Added MATHJAX emulation. . . . .	681
awesomebox:	Added. . . . .	692
babel and polyglossia:	Added info messages. . . . .	647
bigdelim:	Added MATHJAX emulation. . . . .	706
bigstrut:	Added MATHJAX emulation. . . . .	707
bm:	Added. . . . .	708
booktabs:	Added MATHJAX emulation. . . . .	711
booktabs:	Fix for memoir with lateximage. . . . .	509, 710
braket:	Added. . . . .	713
floatflt:	Improved width control. . . . .	832
fontawesome5:	Supports font size, color. . . . .	842
fontawesome:	Refactored with fix for \FAtthree. . . . .	841
fontawesome:	Supports font size, color. . . . .	841
geometry:	Also save \textwidth, \textheight. . . . .	248
graphics:	Factored from \LWR@includegraphicsb. . .	869, 870
graphics:	Fix for negative angles. . . . .	868
ifpdf, ifptex:	Provided by iftex. . . . .	210
keyfloat:	Factored to \LWR@setvirtualpage. . . . .	916
ltablex:	Fix: Require longtable. . . . .	947
ltxtable:	Fix: Required packages. . . . .	948
luatex85:	Removed. . . . .	210
mathtools:	Added MATHJAX emulation. . . . .	969
multirow:	Add: MATHJAX emulation. . . . .	1012
multirow:	Fix: Centered vertical alignment. . . . .	1010
niceframe:	Fix: Adjust for virtual page size. . . . .	1031
parallel:	Added. . . . .	1054
parcolumns:	Added. . . . .	1056
pdfcolfoot:	Added. . . . .	1061
pdfcolmk:	Added. . . . .	1061
pdfcolparallel:	Added. . . . .	1061
pdfcolparcolumns:	Added. . . . .	1062
pdfcol:	Added. . . . .	1060
physics:	Added. . . . .	1070
siunitx:	Fix: \square, \cubed. . . . .	1132
siunitx:	Improved MATHJAX. . . . .	1129, 1130
slashed:	Added. . . . .	1147
steinmetz:	Added. . . . .	1167
svg:	Added. . . . .	1177

transparent:	Supports <i>lateximages</i> . . . . .	1234	
unicode-math:	Added. . . . .	1243	
widetable:	Added. . . . .	1257	
witharrows:	Added. . . . .	1258	
xcolor:	Fix: Nested <i>tabulars</i> . . . . .	1270, 1271	
xltabular:	Fix: Require <i>ltablex</i> . . . . .	1276	
xurl:	Updated to v0.08. . . . .	1283	
AMS environments:	Fix: Nested. . . . .	671	
Factored to	<i>\LWR@setvirtualpage</i> . . . . .	836, 872	
Fix: Use <i>newfloat</i> instead of <i>float</i> .	. . . . .	837	
Fix: Use full <i>\linewidth</i> . . . . .	836		
Remember HTML font size. . . . .	631		
tabular:	<i>colortbl</i> : Fix: Nested <i>tabulars</i> . . . . .	512	
Fix: Nested <i>tabulars</i> . . . . .	514		
warpMathJax:	Added. . . . .	246	
lateximage:	Improved <i>\linewidth</i> . . . . .	595	
minipage:	Fix: <i>\linewidth</i> frame <i>padding</i> . . . . .	614	
Fix: Adjust for virtual page size. . . . .	612		
fminipage:	Fix: Adjust for virtual page size. . . . .	620	
<i>\LWR@setvirtualpage</i> :	Factored. . . . .	611	
v0.80			
	<i>\CustomizeMathJax</i> : Fix: Made <i>@onlypreamble</i> . . . . .	399	
	Warn of slow compile. . . . .	399	
	<i>\LWR@checkloadfilename</i> : Prevented formula, <i>shadethm</i> , <i>slashbox</i> . . . . .	253	
	<i>\LWR@infoprocessingmathjax</i> : Add: Info message. . . . .	400	
	<i>\LWR@restoreorigformatting</i> : Improved math, <i>displaymath</i> . . . . .	557	
	<i>\fcolorbox</i> : Made robust. . . . .	606	
	<i>\fcolorboxBlock</i> : Made robust. . . . .	606	
	<i>\includegraphics</i> : Made robust. . . . .	873	
	General: 2020/02/19 . . . . .	1	
	<i>\textbf</i> and related: Use HTML series, etc. . . . .	621	
	accessibility:	Added MATHJAX emulation. . . . .	657
	accsupp:	Added MATHJAX emulation. . . . .	658
	autobreak:	Added. . . . .	690
	biblatex:	Creates hyperlinks. . . . .	701
	centernot:	Added. . . . .	724
	chemmacros:	Updated to v5.10. . . . .	746, 753
	extarrows:	Added. . . . .	807
	fewerfloatpages:	Added. . . . .	826
	fouridx:	Added. . . . .	848
	gensymb:	Added. . . . .	858
	ghsystem:	Added. . . . .	859
	gmetric:	Requires <i>geometry</i> . . . . .	863
	hhline:	Added. . . . .	882
	leftidx:	Added. . . . .	924
	mathcomp:	Added. . . . .	962
	mathdots:	Added. . . . .	964
	mathfixs:	Added. . . . .	965
	mismath:	Added. . . . .	998
	nccmath:	Added. . . . .	1019
	noitcrl:	Added. . . . .	1035
	pdfcomment:	Added MATHJAX emulation. . . . .	1063
	relsize:	Added MATHJAX emulation. . . . .	1090
	rmathbr:	Added. . . . .	1092
	subsubscripts:	Added. . . . .	1175
	tagpdf:	Added. . . . .	1181
	unicode-math:	Improved MATHJAX. . . . .	1243, 1244
	url:	Creates hyperlinks. . . . .	1249
	xfrac:	Added MATHJAX emulation. . . . .	1276
	AMS environments:	Fix: Centering starred envs. . . . .	670, 671
	Improved math, <i>displaymath</i> . . . . .	574	
	Prevented formula, <i>shadethm</i> , <i>slashbox</i> . . . . .	214	
	lateximage:	Fix: Rule color in <i>lateximage</i> . . . . .	595
	fcolorminipage:	Made robust. . . . .	607
	eqnarray:	Fix: <i>eqnarray*</i> . . . . .	586
v0.81			
	<i>\LWR@addbaselinemarker</i> :	Improved warning messages. . . . .	563
	<i>\LWR@checkloadfilename</i> :	Prevented <i>statex</i> . . . . .	253
	<i>\LWR@replacestrings</i> :	Added. . . . .	397
	<i>\LWR@subHTMLsanitize</i> :	Faster. . . . .	397
	<i>\textcolor</i> :	<i>xcolor</i> : <i>\textcolor</i> : Spurious space. . . . .	1266
	General:	2020/03/04 . . . . .	1
	<i>\warp.css</i> :	Added <i>nolbreaks</i> . . . . .	281
	DotArrow:	Added. . . . .	778
	Slunits:	Improved <i>\unit</i> . Fixed in math mode. Added MATHJAX emulation. . . . .	1118
	axessibility:	Added MATHJAX emulation. . . . .	693
	axessibility:	Updated to 2020/01/08 version. . . . .	693
	colonequals:	Added. . . . .	766
	decimal:	Added. . . . .	775
	dotlessi:	Added. . . . .	778
	econometrics:	Added. . . . .	782
	englc:	Added. . . . .	789
	gridset:	Updated to v0.3. . . . .	878

hyperref: Added	
\pdfstringdefDisableCommands.	893
luamplib: Added.	949
multiobjective: Added.	1008
nolbreaks: Added.	1035
physunits: Added.	1070
returntoregrid: Added.	1092
stackrel: Added.	1156
statex2: Added.	1156
statmath: Added.	1166
<i>lwarpmk</i> : Improved error if in l warp	
source directory.	328
Prevented statex.	214
v0.82	
\LWR@disablepinyin: Added.	232
\LWR@deoquestion: MATHJAX:	
Improved footnotes.	581
\LWR@syncmathjax: Removed <par>	
tags.	577
General: 2020/03/25	1
MATHJAX: Improved footnotes.	400, 581
amsmath: Fixed: \intertext for	
MATHJAX.	673
chemfig: Updated to v1.5.	732
draftwatermark: Updated to v2.0.	780
endnotes: Added MATHJAX	
emulation.	789
endnotes: Fix: Mark in print mode.	788
etoc: Added.	804
luatekko: Added.	949
<i>lwarpmatch-memoir</i> : Supports	
tocvsec2.	1296, 1300
marginnote: Added MATHJAX	
emulation.	960
marginnote: Fix: Neutralize in print	
mode.	960
nccfoots: Added MATHJAX	
emulation.	1019
pagenote: Added MATHJAX	
emulation.	1053
parnotes: Added MATHJAX	
emulation.	1059
sidenotes: Added MATHJAX	
emulation.	1116
soul: Fixed: \<.	1147
syntonly: Added \nopages@.	1179
syntonly: Added to	
\LWR@loadafter.	217
ulem: Fixed: \dashuline.	1239
xpyin: Added full pinyin	
support.	1278
v0.83	
General: 2020/03/27	1
<i>lwarpmatch-memoir</i> : Fixed	
framed.	1290
<i>lwarpmatch-memoir</i> : Fixed:	
\specialindex.	1312
<i>lwarpmatch-memoir</i> : No longer	
requires subfigure.	1290
<i>lwarpmatch-memoir</i> : Updated for	
new sizes.	1292
<i>lwarpmatch-memoir</i> :	
Updated.	1294, 1295
physunits: Updated to v1.0.4.	... 1070
v0.84	
@currentHref: backref: Fixed from	
l warp v0.72 changes.	525
@currentlabelname: Default name	
for previous/next links.	516
@fnssymbol: \LWR@formatted, fixed	
double bar.	433
@makecaption: caption now	
optional.	533
Warn inside a <span>.	534
@textsubscript: Use	
\LWR@formatted. No longer	
\AtBeginDocument.	629
@textsupserscript: Use	
\LWR@formatted.	629
\xdلبfloat: caption now optional.	531
>AddSubtitlePublished: Added	
\subtitle, \published for	
komast.	436
Fixed \subtitle, \printsubtitle	
if no titling.	436
\HTMLFirstPageBottom: Added	
\FirstPageBottom.	379
\LWR@LwarpEnd: Added prev/next	
links.	425
Fix: No footer for EPUB	426
\LWR@LwarpStart: Added prev/next	
links.	424
\LWR@createfooter: Added	
\FirstPageBottom.	402
\LWR@domulticolumn: Fix:	
Multicolumn style.	497
\LWR@excludecomment: Independent	
cut files.	244
\LWR@filenamenoblocks: Fix: Dashes	
in filename.	396
\LWR@filestart: Improved HTML	
title.	419
\LWR@floatbegin: Warn inside a	
<span>.	529
\LWR@forcenewautoidanchor: <par>	
handling.	532
\LWR@htmlsectionfilename: Fix:	
Sections called “Index” or “index”	
have -0 appended to their	
filenames if no prefix.	355

\LWR@new@label: Removed optional args.	521
\LWR@newhtmlfile: Added prev/next links.	403, 406
\LWR@nullfonts: Add'l symbols. Factored out redefinitions.	558
Fix: Accents.	558
Revised \texorpdfstring.	560
\LWR@section: Added prev/next links.	414
Warn inside a <span>.	410
\LWR@startpars: Ignore if in lateximage.	376
\LWR@stopars: Ignore if in lateximage.	377
\LinkNext: Added prev/next links.	358
\LinkPrevious: Added prev/next links.	358
\attribution: Added print mode.	437
\caption@end: caption now optional.	536
\captionlistentry: caption now optional.	536
\captionof: caption now optional.	537
\end@dbffloat: caption now optional.	531
\linknextname: Added prev/next links.	358
\linkpreviousname: Added prev/next links.	358
\printthanks: Fix: \printthanks in print mode.	430
\sscshape: Moved to core.	628
\textssc: Moved to core.	624
\textsubscript: Use \LWR@formatted. No longer \AtBeginDocument.	629
\textsupserscript: Use \LWR@formatted.	629
\theHTMLTitleSeparator: Improved spacing for xeCJK.	418
\verbatiminput: Added print mode.	442
General: 2020/04/24	1
LATEX accents: Add'l symbols.	271
\warp.css: Added koma-* subject.	281
\warp.css: Fix: Minipage tex align.	281
\warp.css: Fix: Top nav if narrow window.	281
\warp.css: Improved nfssext-cfr.	281
\warp.css: Improved realscripts.	281
abstract: Updated for memoir.	654
alltt: Added print mode.	668
amsthm: Fix for \nameref.	675
backref: Fixed from \warp v0.72 changes.	695
biblatex: Fixed: Requires hyperref.	701
boxedminipage: Renamed from boxedminipage2e per author.	712, 713
caption: Improved integration.	719
caption: Non-width \parboxes.	718
caption: Simplified.	718
epigraph: Added print mode.	797
fixme: Added section name.	828
float: Fix: Recursive name.	831
fontaxes: Moved sscshape to core. \FilenameNullify.	843
\warp-patch-memoir: Creates mark macros.	1299
\warp-patch-memoir: Fix: \label.	1291
\warp-patch-memoir: Fixed pagenotes.	1309
\warp-patch-memoir: Improved cleveref support.	1309
\warp-patch-memoir: No longer requires subcaption.	1290
\warp-patch-memoir: No longer uses subcaption.	1306
\warp-patch-memoir: Use LATEX captions.	1304
\warp-patch-memoir: Uses memoir's \newcomment, \commentsoff, \commentson.	1310
\warp-patch-memoir: \contsubtop, etc. now as-is.	1317
\warp-patch-memoir: caption now optional, removed dup caption.	1307
\mdframed: Warn inside a <span>.	979
\memoir: Preloads xcolor.	644
\nfssext-cfr: Improved.	1024
\nfssext-cfr: \FilenameNullify.	1026, 1029
\ntheorem: Warning if thref.	1039
\parcolumns: Fixed: Missing \colplacechunks.	1057
\realscripts: Added print mode.	1084
\realscripts: Fixed starred \textsupserscript, \textsubscript.	1084
\realscripts: Improved supersub scripts.	1084
\rotfloat: Fix: Requires rotating.	1094
\scrextend: Added \titlehead, \subject, \subtitle, \published.	1098
\scrextend: Updated to v3.29.	1097
\sidenotes: \sidecaption not long arg.	1115
\slantsc: \FilenameNullify.	1147
\titling: \AtBeginDocument.	1217

xpinyin: Disables pinyin when null fonts. . . . .	1279
<i>lwarpmk</i> : clean also removes comment_*.cut . . . . .	328
Added \FirstPageBottom. . . . .	379
Added prev/next links. . . . .	354
Docs: JETBRAIN MONO font. . . . .	105
Docs: \linkpreviousname. . . . .	113
Fix: Multirow style. . . . .	1010
Fixed: textcomp now in kernel. . . . .	644
Logos: Only warn about graphics if actually use \Xe. . . . .	640
tabbing: Restore spacing. . . . .	443
center: Added print mode. . . . .	597
verbatim: Added print mode. . . . .	442
verse: Added print mode. . . . .	439
flushleft: Added print mode. . . . .	598
flushright: Added print mode. . . . .	598
longtable: caption now optional. . . . .	944
quotation: Added print mode. . . . .	438
quote: Added print mode. . . . .	438
\lWR@nestspan: Issue warnings inside a span. . . . .	365
Nullified minipage, \parbox inside a span. . . . .	365
<b>v0.85</b>	
\lWR@atbeginverbatim: Fix: Added print macros for fontspec. . . . .	441
\lWR@htmclosecomment: Fix: Added print macros for fontspec. . . . .	367
\lWR@htmlcomment: Fix: Added print macros for fontspec. . . . .	367
\lWR@htmlltagc: Fix: Added print macros for fontspec. . . . .	364
General: 2020/05/01 . . . . .	1
idxlayout: Fixed:	
\AtBeginDocument for load order. . . . .	896
mathtools: Fixed:	
\shortintertext. . . . .	971
titlesec: pagestyles option. . . . .	1212
url: Fixed print mode. . . . .	1249
Fix: Added print macros for fontspec. . . . .	626
<b>v0.86</b>	
\lWR@filenamenoblanks: Fix: *, (, ), . in filename. . . . .	394
\lWR@filestart: Error if missing file. . . . .	421
\lWR@href: hyperref: Adjusted emulation. . . . .	526
\lWR@label@createtag: Fix: Labels in eqnarray. . . . .	520
\lWR@label@inmathcomment: Fix: Labels in eqnarray. . . . .	519
\lWR@nolinkurl: hyperref: Adjusted emulation. . . . .	526
\lWR@phantomsection: hyperref: Adjusted emulation. . . . .	639
\lWR@startref: Fixed: \label inside lateximage. . . . .	522
\lWR@syncmathjax: Improved MATHJAX equation numbers. . . . .	577
\lWR@url: hyperref: Adjusted emulation. . . . .	527
\textcolor: xcolor: \textcolor: Fixed for babel-french. . . . .	1266
General: 2020/05/12 . . . . .	1
\lWR@insidemathcomment: Added. . . . .	562
amsmath: Added support for MATHJAX. . . . .	673
hyperref: Adjusted emulation. . . . .	889
mathtools: Added \ArrowBetweenLines*. . . . .	971
mathtools: Added \shortvdotswithin*. . . . .	971
mathtools: Added starred delimited macros. . . . .	971
nccmath: Added \displaybreak. . . . .	1020
nccmath: Fixed \nr, added starred. . . . .	1020
File: lwarpm_mathjax.txt: Added support for starred macros. . . . .	324
File: lwarpm_mathjax.txt: Improved equation numbering. . . . .	324
File: lwarpm_mathjax.txt: Updated to MATHJAX v3 current. . . . .	324
<b>v0.87</b>	
\lWR@checkloadfilename: Prevented csvtools. . . . .	253
\bibliography: Reverted to original. . . . .	555
\scshape: Added FixSmallCaps to remove \lWR@print@scshape for erewhon, et. al. . . . .	627
\sishape: Added FixSmallCaps to remove \lWR@print@scshape for erewhon, et. al. . . . .	628
General: 2020/06/03 . . . . .	1
cancel: Now uses MATHJAX v3 extension. . . . .	717
citeref: Added. . . . .	760
drftcite: Added. . . . .	780
embrac: Neutralized kerning. . . . .	786
ifpdf, ifptex: Restored to work on TL2019 and earlier. . . . .	210
jurabib: Added. . . . .	906
mathtools: Improved \underbraket, \overbraket. . . . .	969
mathtools: Updated starred macros. . . . .	969
mhchem: Now uses MATHJAX v3 extension. . . . .	992

multibib: Added.	1004	\nohyperpage: Added.	554
nccmath: Updated starred, improved \underref.	1020	General: 2020/07/19	1
physics: Now uses MATHJAX v3 extension.	1070	l warp.css: Added indexheading for gindex.	281
splitbib: Added.	1150	l warp.css: Added tcolorbox, thmbox.	281
statex2: \pBin exponent.	1156	amsmath: Added \dotso text mode.	669
Added FixSmallCaps to remove \LWR@print@scshape for erewhon, et. al.	621	amsthm: Requires amsmath.	674
Docs: Updated docs to compile l warp documentation.	195	caption, scrextend: Fixed \caption*.	720
File: l warp_mathjax.txt: Now provides \ifstar, \ifnextchar.	324	cleveref, varioref: Fix for starred macros.	764
Prevented csvtools.	214	fancyref: Now uses varioref which ignores page-related output.	816
<b>v0.88</b>		fbox: Added.	823
\@wrindex: Added support for <i>xindex</i> .	548	gindex: Added.	860
\IndexRangeSeparator: Added.	547	htensor: Added.	883
\LWR@HTML@ref: Added MATHJAX.	524	mleftright: Added.	1001
Fixed: Starred.	523	pdfrender: Restored for xfakebold.	1066
\LWR@LetLtxMacros: Added.	234	shadethm: Added.	1111
\LWR@absorbstar: Added.	235	tcolorbox: Added.	1185
\LWR@checkloadfilename: Prevented shadethm.	253	termcal: Added.	1192
\LWR@doindexentry: Adapts to gindex.	552	thm-listof: Added.	1202
\LWR@doindexentrysub: Adapts to gindex.	552	thm-restate: Added.	1203
\LWR@doindexentrysubsub: Handles a range, for <i>xindex</i> .	551	thmbox: Added.	1203
\LWR@forcenewautoidanchor: Inline handling.	532	ushort: Added.	1249
\LWR@hyperindexrefsubtwo: Adds support for a range, for <i>xindex</i> .	553	varioref: Removed page-related text.	1250
\LWR@indexnameref: Added IndexRef option, refactored.	551	xfakebold: Now works with pdfrender.	1273
\LWR@maybe@orignewpage: Added.	233	Added \vdots.	270, 631
\LWR@printchaptername: Conditionally print \chaptername.	410	Added \LWR@texboxdepth.	233
\LWR@restoreMathJaxformatting: Added.	555	Added IndexRef option.	241
\LWR@restoreorigformatting: Added \vdots.	556	Added xindex option.	241
Support for MATHJAX.	557	Option xindexConfig added.	239
\LWR@section: Conditionally print \chaptername.	414	Prevented shadethm.	214
\LWR@xindex@modifyentry: Added support for <i>xindex</i> .	547	<b>v0.883</b>	
\hrulefill: Full line <div> if not started paragraph.	632	General: nfssext-cfr: Fixed \textsw.	1028
\hyperindexformat: Added.	554	<b>v0.89</b>	
\hyperindexref: Rewritten to parse commas and ranges.	552	\@opargbegintheorem: Allow preload of amsmath, amsthm, centernot.	444
\hyperpage: Added.	554	\LWR@HTMLsanitizeexpand: Fix: Nested MATHJAX environments.	398

\LWR@doubledollar: TT font for	
MATHJAX. . . . .	572
\LWR@patcherror: Improved	
message. . . . .	231
\LWR@singledollar: TT font for	
MATHJAX. . . . .	573
\LWR@subsingledollar: TT font for	
MATHJAX. . . . .	571
\enddocument: Adapt to LATEX core	
changes. . . . .	426
General: 2020/09/03 . . . . .	1
accents: Added. . . . .	656
atbegshi: Adapt to LATEXkernel	
changes. . . . .	685
caption3: Split from lwp-caption. .	720
caption: Adapt to v3.5. . . . .	718
centernot: Improved. . . . .	724
econometrics: Uses	
lwp-common-mathjax-letters. .	782
everyshi: Adapt to LATEXkernel	
changes. . . . .	807
everyshi: Included in LATEX core. .	643
hepunits: Added. . . . .	881
lwp-common-mathjax-letters:	
Added. . . . .	1322
lwp-common-mathjax-newpxmath:	
Added. . . . .	1329
lwp-common-mathjax-overlaysymbols:	
Added. . . . .	1338
mathalpha: Added. . . . .	961
mathdesign: Added. . . . .	963
mathpazo: Added. . . . .	965
mathptmx: Added. . . . .	966
mathtools: Added \adjustlimits. .	970
mathtools: Minor	
improvements. . . . .	970, 973, 974
mismath: Improved math	
operators. . . . .	998
newpxmath: Added. . . . .	1021
newtxmath: Added. . . . .	1022
newtxsf: Added. . . . .	1023
pxfonts: Added. . . . .	1081
shuffle: Added. . . . .	1113
siunitx: Fix: MATHJAX for \tothe,	
\raiseto. . . . .	1133
siunitx: Unicode for endash. . .	1137
statmath: Fixed abcsm, uses	
lwp-common-mathjax-letters. .	1166
thm-listof: Updated to v0.72. .	1202
thm-restate: Updated to v0.72, no	
changes needed. . . . .	1203
thmtools: Added. . . . .	1204
txfonts: Added. . . . .	1237
upgreek: Added. . . . .	1248
lwarpmk: clean also removes	
*.bb1 . . . . .	328
Allow preload of amsmath,	
amsthm, centernot. . . . .	217, 644
AMS environments: Fix: <ALT> text	
env name. . . . .	670
Foreground/background hooks:	
Adapt to LATEX core changes. . .	427
MATHJAX: Added \protect, and	
\mathcode and related. . . . .	401
Removed \let of \[, \]. . . . .	575
eqnarray: \textendash for number	
range. . . . .	586
v0.891	
\LWR@atbeginverbatim: Fix for	
verbatim, alltt with lists . . .	441
\LWR@checkloadfilename: Prevented	
libgreek. . . . .	253
\LWR@excludecomment: Error if nested	
comment. . . . .	244
\LWR@subHTMLsanitize: Neutralized	
single quotes. . . . .	397
\verb: \verb as \texttt. . . . .	440
General: 2020/09/22 . . . . .	1
biblatex: Fixed: Back page	
references. . . . .	702
bussproofs: Added. . . . .	716
caption: Improved integration. .	719
cmbright: Added. . . . .	765
colonequals: Uses Unicode and	
\mathrel. . . . .	766
fancyvrb: Fix: BVerbatim with	
labels. . . . .	818
fourier: Added. . . . .	848
hyperref: Added backref,	
pagebackref. . . . .	885
hyperref: Fixed \texorpdfstring	
with babel-french. . . . .	893
kpfonts-otf: Added. . . . .	919
kpfonts: Added. . . . .	918
libertinustmath: Added. . . . .	926
listings: Fix for MATHJAX: Moved	
\LWR@forcenewpage to start. .	936, 938
listings: Improved HTML sanitizing. .	936
listings: Improved spacing around	
ampersand. . . . .	936
lwp-common-mathjax-newpxmath:	
Expanded for	
kpfonts. . . . .	1330–1332, 1335
lwp-common-mathjax-newpxmath:	
Factored non-UNICODE. .	1331–1333
lwp-common-mathjax-newpxmath:	
Reverse factored out Greek,	
non-UNICODE. . . . .	1329

\l warp-common-mathjax-nonunicode:	
Added. . . . .	1335
mathdesign: Added \mathinner,	
\mathbin. . . . .	964
mathdesign: Added \mathop. . . .	964
mathdesign: Added \mathrel,	
\mathord. . . . .	964
mathdesign: Honors	
greekuppercase,	
greeklowercase. . . . .	963
mathdots: Added more macros,	
\mathinner. . . . .	964
mathfixs: Added \mathinner. . . .	965
mathpazo: Honors slantedGreek. . . .	965
mathptmx: Honors slantedGreek. . . .	966
mathtools: Improved	
\underbraket, \overbracket. . . .	969
mathtools: Uses Unicode and	
\mathrel. . . . .	973
multiobjective: Improved. . . . .	1008
newpxmath: Honors uprightGreek,	
slantedGreek. . . . .	1021, 1023
newtxmath: Honors uprightGreek,	
slantedGreek. . . . .	1022
nicefrac: Added \mathinner,	
improved fraction. . . . .	1031
scalerel: Added. . . . .	1096
shuffle: Added \mathbin, improved	
bar. . . . .	1113
txgreeks: Added. . . . .	1237
unicode-math: Added	
sans-style. . . . .	1244
units: Added \mathinner, improved	
fraction. . . . .	1247
File: l warp_mathjax.txt: Renamed	
tagformat extension. . . . .	324
Prevented libgreek. . . . .	214
BVerbatim: fancyvrb: Fix: BVerbatim	
with labels. . . . .	823
v0.892	
\l WR@subhtmllementclass: Ignore	
empty class. . . . .	368
\fcolorbox: xcolor: Fixed second	
optional arg. . . . .	1267
\fcolorboxBlock: xcolor: Fixed	
second optional arg. . . . .	1268
General: 2020/10/07 . . . . .	1
fancyvrb: Adapted to fextra. . . . .	822, 823
fancyvrb: Provided	
\l F@FrameFillLine. . . . .	821
fourier: Added \left/\right	
support in l warp_mathjax.txt. . . .	849
fextra: Added. . . . .	854
graphics: Fix path from kernel	
change. . . . .	873
\l ibertinustmath: Added \left/	
\right support in	
l warp_mathjax.txt. . . . .	927
lineno: Fix for	
internallinenumbers*. . . . .	932
\l warp-common-mathjax-newpxmath:	
Added \left/\right support in	
l warp_mathjax.txt. . . . .	1329, 1333
minted: Added. . . . .	996
unicode-math: Adeed MATHJAX	
support for \left/\right. . . . .	1245
File: l warp_mathjax.txt: Added	
\left/\right delimiters. . . . .	324
fcolorminipage: xcolor: Fixed second	
optional arg. . . . .	1269
v0.893	
\l WR@checkloadfilename: Allowed	
picinpar. . . . .	253
\l WR@expandableformatted:	
Improved error handling. . . . .	265
\l WR@expandableformattedenv:	
Improved error handling. . . . .	266
\l WR@formatted: Improved error	
handling. . . . .	265
\l WR@formatted@checkendname:	
Added. . . . .	264
\l WR@formatted@checkname: Added.	264
\l WR@formattedenv: Improved error	
handling. . . . .	265
\l WR@htmlcomment: Disabled in math	
mode. . . . .	367
\l WR@subHTMLsanitize: Optionally	
neutralized single quotes. . . . .	397
General: 2020/11/26 . . . . .	1
MATHJAX: Added \mathnormal. . . .	400
l warp.css: Added keystroke. . . .	281
braket: Now uses MATHJAX	
extension. . . . .	713
caption3: Updated date to v2.2e. . . .	720
caption: Updated date to v3.5g. . . .	718
epstopdf-base: Updated date to	
v2.11. . . . .	799
epstopdf: Updated date to v2.11. . . .	799
esvect: Added. . . . .	803
fixmath: Added. . . . .	828
graphics: Updated date to v1.4c. . . .	864
graphicx: Updated date to v1.2b. . . .	877
keystroke: Added. . . . .	916
l warp-common-mathjax-letters:	
Added \varbeta. . . . .	1322
mathastext: Added. . . . .	961
mathspec: Added. . . . .	966
menukeys: Added. . . . .	989
menukeys: Updated to v1.6.1. . . .	989
picinpar: Added. . . . .	1072

plimsoll:	Added.	1077
pstricks:	Fixed <code>pspicture*</code> .	1080
repltext:	Added.	1091
schemata:	Added <code>&lt;alt&gt;</code> text.	1097
selectp:	Added.	1107
seqsplit:	Added.	1109
simplebnf:	Added.	1116
statistics:	Added.	1160
struktex:	Removed package date.	1168
svg:	Updated date to v2.02j.	1177
swfigure:	Added.	1178
tikz:	Fixed font macros.	1208
tocloft:	Fix: <code>\cftpagenumbersoff</code> , <code>\cftpagenumberson</code> .	1229
Allowed <code>picinpar</code> .		214
v0.894		
<code>\LWR@forceSVGmessage</code> :	Improved MATHJAX warnings.	649
<code>\LWR@mathjaxwarn</code> :	Improved MATHJAX warnings.	650
General:	2020/12/24	1
MATHJAX:	Accept starred <code>\hspace</code> .	401
MATHJAX:	Added <code>\arabic</code> , <code>\number</code> , <code>\noalign</code> .	400
<code>lwarf.css</code> :	TeX logos no longer below baseline.	281
booktabs:	MATHJAX: Absorb <code>\cmidrule</code> trim arg.	711
colortbl:	Added MATHJAX emulation.	768
nicematrix:	Added.	1032
rmathbr:	Updated to v1.1.	1092
v0.895		
<code>\LWR@addlinktitle</code> :	Improved HTML quotes.	521
<code>\LWR@checkloadfilename</code> :	<code>kpfonts</code> load before <code>lwarf</code> .	253
Allowed <code>epsf</code> .		253
<code>\LWR@domulticolumn</code> :	Improved HTML quotes.	497
<code>\LWR@floatbegin</code> :	Improved HTML quotes.	530
<code>\LWR@forceSVGmessage</code> :	Improved MATHJAX warning.	649
<code>\LWR@forcenewautoidanchor</code> :	Improved HTML quotes.	532
<code>\LWR@hook@processingtags</code> :	Added.	362
<code>\LWR@label@subcreatetag</code> :	Improved HTML quotes.	519
<code>\LWR@mathjaxwarn</code> :	Added MATHJAX warnings for aligned-overset, autoaligne, boldtensors, <code>liberitinustmath</code> , tensind.	650
Improved MATHJAX warning for <code>unicode-math</code> .		650
<code>\LWR@maybenewtablerow</code> :	Improved HTML quotes.	479
<code>\LWR@printatbang</code> :	Improved HTML quotes.	480
<code>\LWR@printopenlist</code> :	Improved HTML quotes.	445
<code>\LWR@startref</code> :	Improved HTML quotes.	522
<code>\LWR@subaddtabularcellcolor</code> :	Improved HTML quotes.	491
<code>\LWR@subhyperref</code> :	Improved HTML quotes.	525
<code>\LWR@subhyperrefclass</code> :	Improved HTML quotes.	526
<code>\LWR@subinlinimage</code> :	Improved HTML quotes.	527
<code>\LWR@tabledatasinglecolumntag</code> :	Improved HTML quotes.	481
<code>\LWR@tdaddstyle</code> :	Improved HTML quotes.	485
<code>\LWR@tdendstyles</code> :	Improved HTML quotes.	485
<code>\hspace</code> :	Improved HTML quotes.	635
<code>\rotatebox</code> :	Improved HTML quotes.	875
<code>\rule</code> :	Improved HTML quotes.	638
<code>\scalebox</code> :	Improved HTML quotes.	876
<code>\verb</code> :	Improved HTML quotes.	440
General:	2021/02/18	1
<code>acro</code> :	Updated to v3.5.	659
<code>amscdx</code> :	Added.	669
<code>amsmath</code> :	Added <code>\hat</code> , etc..	673
<code>changes</code> :	Updated to v4.0.1.	726
<code>epsfig</code> :	Supports <code>lateximage</code> .	798
<code>epsf</code> :	Added.	797
<code>fancyhdr</code> :	Updated to v4.0.	813
<code>impnattypo</code> :	Added.	902
<code>isomath</code> :	Added.	904
<code>isotope</code> :	Added.	905
<code>libertinustmath</code> :	MATHJAX: Fixed for Greek, ignoring sans.	926, 927
<code>lpic</code> :	Added.	946
<code>luavlna</code> :	Added.	953
<code>mattens</code> :	Added.	974
<code>mdwmath</code> :	Added.	986
<code>pinlabel</code> :	Added.	1074
<code>rlepsf</code> :	Added.	1092
<code>rotating</code> :	Supports <code>lateximage</code> .	1094
<code>siunitx</code> , MATHJAX:	Scientific notation.	1134
<code>siunitx</code> , MATHJAX:	<code>\num</code> sci notation, multiples, +, decimals, comma.	1134
<code>siunitx</code> :	Fix: MATHJAX for <code>\ang</code> .	1133
<code>siunitx</code> :	MATHJAX: <code>\SI</code> prefix parsing.	1136
<code>skmath</code> :	Added.	1141

tensor: Added MATHJAX. ....	1190	\LWR@null@newautopagelabel: Fix: Refs in footnotes. ....	391
tikz-imagelabels: Added. ....	1209	\LWR@nullfonts: Added ARIA role. .	560
xevlna: Added. ....	1273	Added groups. ....	560
Allow \par. ....	1011	\LWR@popclose: Stack 19 deep. ....	349
Allowed epsf. ....	214	\LWR@printpendingmpfootnotes: Added ARIA role. ....	388
File: l warp_mathjax.txt: Added \ifblank, \ifstreqequal macros. ....	324	\LWR@pushclose: Error if stack overflow. ....	349
Fixed libertinus-otf \textquotedbl kern. ....	270	Stack 19 deep. ....	348
Improved HTML quotes. ....	268, 362, 667, 819, 870,	\LWR@refwithsection: Added. ....	523
871, 879, 889, 890, 938, 979, 1010, 1042		\LWR@subhtmlelementclass: Added ARIA role. ....	368
Use kpfonts-otf if LuaLaTeX, XeLaTeX. ....	230	\LWR@subinlinimage: Added ARIA role. ....	527
lateximage: Improved HTML quotes. ....	593	\LWR@subsingledollarsvg: Added ARIA role. ....	568
minipage: Improved HTML quotes. ....	613	\LWR@synconenotename: Fix: MATHJAX: Footnote names. ....	581
enumerate: Improved HTML quotes. ....	449	\LWR@write@lwarplabel: Added \LWR@currentautosecpage. ....	518
itemize: Improved HTML quotes. ....	449	\LWRPrintStack: Stack 19 deep. ....	359
v0.896		\RequirePackage: Warn if package option has braces. ....	255
\@begintheorem: Intersperse footnotes. ....	444	\marginpar: Added ARIA role. ....	389
\@currentHref: backref: Improved back refs. ....	525	\marginparBlock: Added ARIA role. ....	389
\@endtheorem: Intersperse footnotes. ....	444	\mbox: Added a group. ....	615
\LWR@footnotetext: Fix: autopage references in footnotes. ....	385	General: 2021/04/08 ....	1
\LWR@printpendingfootnotes: Added ARIA role. ....	387	l warp.css: Added <main>, adjusted <sidetoccontainer> margin. ....	281
Fix: Backref to footnote. ....	387	797	
\LWR@LwarpEnd: Added <main>. ....	425	amsthm: Fix: Footnotes in opt arg.. ....	676
Fix: Footnotes at end of document. ....	425	amsthm: Improved back refs. ....	675, 678
\LWR@LwarpStart: Added <main>. ....	424	amsthm: Intersperse footnotes. ....	676–678
\LWR@currentautosecpageref: Added. ....	518	backref: Improved backrefs. ....	695
\LWR@doequation: Added ARIA role. ....	580	biblatex: Fix: Back references. ....	702
\LWR@doubledollar: Added ARIA role. ....	572	biblatex: Fix: Citation references. ....	702
Fix: Displaymath notes with MATHJAX. ....	572	biblatex: Improved refs: \ref to \LWR@refwithsection. ....	702
\LWR@firstoffive: Changed to firstoffive instead of four. ....	232	bigdelim: Updated to v2.8. ....	706
\LWR@htmldivclass: Added ARIA role. ....	369	ccicons: Added. ....	723
\LWR@htmlelementclass: Added ARIA role. ....	368	chemfig: Updated to v1.6a. ....	732
\LWR@htmlspanclass: Added ARIA role. ....	366	citeref: Improved refs: \ref to \LWR@refwithsection. ....	760
\LWR@lateximage@oneimage: Added ARIA role. ....	591	classicthesis: Added. ....	761
\LWR@lateximage@oneimageb: Added ARIA role. ....	591	cleveref: Undo memoir changes. ....	764
\LWR@new@label: Revert to a simple \newcommand*. ....	521	cleveref: Undo subfig changes. ....	764
\LWR@newautopagelabel: Fix: Refs if page changed. ....	391	enotez: Added. ....	793
\LWR@newhtmlfile: Added <main>. ....	403, 406	floatflt: Added ARIA role. ....	832
		hyperref: Fix: Added \*autorefname macros. ....	892
		hyperref: Fix: No \hyperlink in HTML comment. ....	891
		hyperxmp: Added keys. ....	894

keyfloat: Added ARIA role. . .	915, 916	\LWR@loadnever: Replacements now optional. . . . .	212
listings: Escapes accepted but disabled. . . . .	936	\RequirePackage: Fixed warning. . .	255
listings: Fix: Labels. . . . .	937	General: 2021/05/24 . . . . .	1
l warp-patch-memoir: Added ARIA role. . . . .	1305	centerlastline: Added. . . . .	724
natbib: Fix: Citation references..	1018	decorule: Added. . . . .	775
ntheorem: Intersperse footnotes. . . . .	1040, 1048	fancypar: Added. . . . .	815
orcidlink: Added. . . . .	1051	fixme: Modified	
parnotes: Added ARIA role. . . . .	1058	\AtBeginDocument. . . . .	829
pdflscape: Fix: Added landscape. .	1063	float: Improved compatibility with newfloat, keyfloat. . . . .	832
picinpar: Added ARIA role. . . . .	1072	froufrou: Added. . . . .	852
scrlayer-scrpage: Added \automark, \manualmark. . . . .	1104	pbalance: Added. . . . .	1059
scrlayer-scrpage: Added \headmark, \pagemark. . . . .	1104	siunitx-v2: Do not use math mode. . . . .	1128
theorem: Intersperse footnotes. .	1201	siunitx-v2: Regular group instead of color group. . . . .	1128
threeparttable: Fix: \TPTL@tnotex if not referrable. . . . .	1206	siunitx-v2: Rollback for v2. . . . .	1127
tocloft: Fix: \cftpagenumbersoff, \cftpagenumberson with memoir. . . . .	1229	siunitx: Rollback for v2. . . . .	602, 1126
wrapfig: Added ARIA role. . . . .	1259		
Docs: Theorem references. . . . .	162		
Fix: autopage references in footnotes. . . . .	810, 817		
Stack 19 deep. . . . .	347, 348		
lateximage: Added ARIA role. . . . .	592, 596		
center: Spurious space in a <span>. .	597		
description: Fix: Footnotes inside description label. . . . .	450		
minipage: Improved back refs. . . . .	614		
BlockClass: Added ARIA role. . . . .	370		
flushleft: Spurious space in a <span>. . . . .	598		
flushright: Spurious space in a <span>. . . . .	598		
\LWR@BlockClassWP: Added ARIA role. .	371		
\LWR@displaymathother: Added ARIA role. . . . .	575		
\LWR@equationother: Added ARIA role. .	575		
\LWR@nestspan: Issue BlockClassWP warning inside a span. . . . .	365		
<b>v0.897</b>			
\LWR@afterloadnever: Refactored. .	213	\LWR@addmathjax: Fix: alignat with MATHJAX. . . . .	578
\LWR@checkloadfilename: Refactored. . . . .	253	\LWR@filestart: Spurious space. .	422
\LWR@checkloadnever: Refactored. .	216	General: 2021/07/17 . . . . .	1
\LWR@checkloadnevers: Refactored. .	214	changes: Updated to v4.2.1. . . . .	726
\LWR@earlyclassloadnever: Replacements now optional. . . . .	213	froufrou: Updated to v1.4.0. . . . .	852
\LWR@earlyloadnever: Refactored. .	213	lipsum: Added. . . . .	935
\LWR@listof: Improved compatibility with newfloat, keyfloat. . . . .	541	Fix: alignat with MATHJAX. . . . .	670
		Fix: flalign name. . . . .	691
<b>v0.898</b>			
\LWR@atbeginverbatim: Reduced underfull \hbox warnings. . . . .	441		
\LWR@beginhideamsmath: Reduced underfull \hbox warnings. . . . .	584		
\LWR@hidelatexequation: Reduced underfull \hbox warnings. . . . .	578		
General: 2021/05/29 . . . . .	1		
listings: Reduced underfull \hbox warnings. . . . .	937		
wrapfig: Improved integration with keyfloat. . . . .	1259		
Reduced underfull \hbox warnings. .	872		
lateximage: Reduced underfull \hbox warnings. . . . .	593		
\LWR@figcaption: Reduced underfull \hbox warnings. . . . .	535		
<b>v0.899</b>			
\LWR@LwarpStart: Warn if l warp package not detected. . . . .	423		
General: 2021/06/29 . . . . .	1		
l warp.css: Improved multicol. . .	281		
graphics: Supports keepaspectratio. . . . .	866, 873		
keyfloat: Fix: lw w/ h. . . . .	912		
l warpmk: Warn if l warp package not detected. . . . .	328		
<b>v0.900</b>			
\LWR@addmathjax: Fix: alignat with MATHJAX. . . . .	578		
\LWR@filestart: Spurious space. .	422		
General: 2021/07/17 . . . . .	1		
changes: Updated to v4.2.1. . . . .	726		
froufrou: Updated to v1.4.0. . . . .	852		
lipsum: Added. . . . .	935		
Fix: alignat with MATHJAX. . . . .	670		
Fix: flalign name. . . . .	691		

# 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		
\\$ . . . . .	<u>563</u>	\@starttoc . . . . .
\& . . . . .	<u>353</u> , <u>8701</u>	\@textsubscript . . . . .
\( . . . . .	<u>11736</u>	\@textsuperscript . . . . .
*-images.txt (file) . . . . .	<u>592</u>	\@title . . . . .
*_html.aux (file) . . . . .	<u>390</u> , <u>515</u> , <u>516</u> , <u>592</u>	\@wrglossary . . . . .
*_html.lof (file) . . . . .	<u>534</u>	\@wrindex . . . . .
*_html.lot (file) . . . . .	<u>534</u>	\@xdlbfloating . . . . .
*_html.tex (file) . . . . .	<u>274</u>	\@xfloat . . . . .
\, . . . . .	<u>127</u>	\[ . . . . .
--shell-escape (option) . . . . .	<u>103</u>	\\\ . . . . .
\@@@setcpageref . . . . .	<u>39</u>	\\$ . . . . .
\@@@setcref . . . . .	<u>2</u>	\\$\\$ . . . . .
\@@@setcrefrange . . . . .	<u>17</u>	2in1 (package) . . . . .
\@author . . . . .	<u>428</u>	2up (package) . . . . .
\@begintheorem . . . . .	<u>8293</u>	
\@biblabel . . . . .	<u>11182</u>	A
\@caption . . . . .	<u>10607</u>	a4 (package) . . . . .
\@capttype . . . . .	<u>10584</u>	a4wide (package) . . . . .
\@chapcntformat . . . . .	<u>7383</u>	a5comb (package) . . . . .
\@currentHref . . . . .	<u>10383</u>	abstract (environment) . . . . .
\@currentlabelname . . . . .	<u>10183</u>	abstract (package) . . . . .
\@date . . . . .	<u>428</u>	\abstractname . . . . .
\@dononparem . . . . .	<u>8325</u>	academicons (package) . . . . .
\@endtheorem . . . . .	<u>8308</u>	accents (package) . . . . .
\@ensuredmath . . . . .	<u>11746</u>	accessibility (package) . . . . .
\@fnsymbol . . . . .	<u>8030</u>	accsupp (package) . . . . .
\@footnotetext . . . . .	<u>6743</u>	acro (package) . . . . .
\@include . . . . .	<u>1624</u>	acronym (package) . . . . .
\@item . . . . .	<u>8338</u>	\addcontentsline . . . . .
\@makecaption . . . . .	<u>10607</u>	addlines (package) . . . . .
\@makefnmark . . . . .	<u>6705</u>	\AddSubtitlePublished . . . . .
\@makefntext . . . . .	<u>6704</u>	adjmulticol (package) . . . . .
\@maketitle . . . . .	<u>57</u> , <u>8062</u>	Adobe (program) . . . . .
\@mklab . . . . .	<u>8319</u>	\affiliation . . . . .
\@mpfootnotetext . . . . .	<u>6745</u>	afterpage (package) . . . . .
\@nbitem . . . . .	<u>8405</u>	algorithm2e (package) . . . . .
\@opargbegintheorem . . . . .	<u>8300</u>	algorithmicx (package) . . . . .
\@partcntformat . . . . .	<u>7384</u>	align (environment) . . . . .
\@partnameformat . . . . .	<u>7385</u>	align* (environment) . . . . .
\@rowc@lors . . . . .	<u>9073</u>	alignat (environment) . . . . .
\@rowcolors . . . . .	<u>9072</u>	alignat* (environment) . . . . .
\@seccntformat . . . . .	<u>7381</u>	alltt (package) . . . . .
		\AltTextClose . . . . .

\AltTextOpen	118, <a href="#">11397</a>	bookmark (package)	709
\AmS	<a href="#">13548</a>	booktabs (package)	710
amscdx (package)	669	boolean:	
amsmath (package)	669	CombineHigherDepths	115, 392
amsthm (package)	673	FileSectionNames	115, 354
\and	428	FixSmallCaps	116, 127, 621
anonchap (package)	679	FormatEPUB	187, 266
any size (package)	679	FormatWP	189, 267
appendix (package)	<a href="#">139, 680</a>	HTMLDebugComments	116, 261
ar (package)	680	LWR@allowanothergeometry	248
arabicfront (package)	682	LWR@amsmultiline	584
array (package)	682	LWR@copiedsidetoc	539
\arrayrulecolor	9080	LWR@doingapar	373
\arrayrulecolor\nexttoken	9080	LWR@doingcmidrule	456
arydshln (package)	683	LWR@doingstartpars	373
AsciiDoc (program)	77	LWR@doingtbrule	456
AsciiDoctor (program)	77	LWR@dynamicmath	352
Asciidoctor-LaTeX (program)	77	LWR@emptyatbang	457
asymptote (package)	169, 685	LWR@exitingtabular	457
atbegshi (package)	685	LWR@forceminipagefullwidth	611
attachfile (package)	686	LWR@foundmrowcell	456
attachfile2 (package)	687	LWR@freezethisautoind	532
\attrib	<a href="#">179, 438, 1250</a>	LWR@indisplaymathimage	562
\attribution	8139	LWR@insidemathcomment	562
authblk (package)	<a href="#">139, 689</a>	LWR@intabularmetadata	457
\author	<a href="#">124, 428</a>	LWR@isstartingequation	589
autobreak (package)	690	LWR@MathJax@silentquotes	397
autonum (package)	691	LWR@mathmacro	351
autosec	408	LWR@minipagefullwidth	611
awesomebox (package)	692	LWR@minipagethispar	612
axessibility (package)	693	LWR@opttablecol	457
axodraw2 (package)	694	LWR@origmathjax	237
<b>B</b>			
babel (package)	180	LWR@setseqfilelabel	355
\backmatter	7359	LWR@skipatbang	457
backnaur (package)	694	LWR@skippingmcolrowcell	456
backref (package)	695	LWR@skippingmrowcell	456
balance (package)	695	LWR@starredlongtable	459
\BaseJobname	5901	LWR@startedrow	456
BaseJobname (option)	<a href="#">112, 238</a>	LWR@tableparcell	456
bding (package)	696	LWR@tabularcelladded	456
\bfseries	<a href="#">13090</a>	LWR@tabularmutemods	457
bilatex (package)	701	LWR@tracinglwarp	260
\bibliography	11182	LWR@unknownmathsize	564
\BibTeX	13541	LWR@usedmultirow	456
bibunits (package)	705	LWR@validtablecol	457
bigdelim (package)	<a href="#">175, 705</a>	LWR@verbtags	440
bigfoot (package)	706	LWR@warnbaselinemarker	564
bigstrut (package)	707	LWR@warnedcustomizemathjax	399
bitpattern (package)	707	LWR@xfakebold	562
BlockClass (environment)	<a href="#">121, 6386</a>	mathjax	237
\BlockClassSingle	6399	usingOSWindows	236
blowup (package)	708	warpingHTML	237
bm (package)	708	warpingprint	237
booklet (package)	709	WPMarkFloats	<a href="#">190, 267</a>
		WPMarkLOFT	<a href="#">191, 267</a>

WPMarkMath	191, 268	class:	
WPMarkMinipages	191, 267	internet	76
WPMarkTOC	191, 267	komascript	177
WPTitleHeading	192, 268	memoir	177, 179, 1251
bophook (package)	712	classicthesis (package)	761
bounddvi (package)	712	\cleardoublepage	13370
boxedminipage (package)	712	\clearpage	13370
boxedminipage2e (package)	713	cleveref (package)	135, 761
\boxframe	197	clrdblp (package)	765
braket (package)	713	cm-super (package)	103
breakurl (package)	713	cmap (package)	105
breqn (package)	714	cmbright (package)	765
bsheaders (package)	715	cmdtrack (package)	766
bussproofs (package)	716	colonequals (package)	766
BVerbatim (environment)	257	\color	53
bxpapersize (package)	716	color (package)	167, 767
bytefield (package)	717	\colorbox	80
		\colorboxBlock	93, 12464
		colortbl (package)	175, 767
		CombineHigherDepths (boolean)	115, 392
		comment (package)	244
		\ConTeXt	13536
		continue (package)	769
		copyrightbox (package)	769
		counter:	
		FileDepth	115, 392
		FootnoteDepth	115, 383
		footnoteReset	384
		lofdepth	544
		lotdepth	544
		LWR@cellcolordepth	459
		LWR@currentautosecfloatpage	390
		LWR@currentautosecpage	390
		LWR@externalfilecnt	562
		LWR@hdashedlines	456
		LWR@hlines	456
		LWR@htmlfilenumber	355
		LWR@htmlseqfilenumber	354
		LWR@lateximagedepth	588
		LWR@lateximagenumber	588
		LWR@LIPage	588
		LWR@maxfields@	670
		LWR@midrulecounter	459
		LWR@nextautoid@	534
		LWR@nextautopage	534
		LWR@nextequation	576
		LWR@prevFileDepth	409
		LWR@previousautopagelabel	390
		LWR@spandepth	373
		LWR@splitstarcopies	471
		LWR@splitstarindex	471
		LWR@starcount	471
		LWR@startingequation	589
		LWR@tablecolspectindex	458
		LWR@tablecolspectwidth	458

LWR@tableLaTeXcolindex .....	458	\emph .....	12906
LWR@tabletotalLaTeXcols .....	458	\emptypage (package) .....	786
LWR@tabletotalLaTeXcolsnext .....	458	\end@dblfloat .....	10553
LWR@tabularDepth .....	457	\end@float .....	10553
LWR@tabularpardepth .....	457	\enddocument .....	7864
LWR@thisautoid .....	532	\endfloat (package) .....	787
LWR@thisautoidWP .....	532	\endheads (package) .....	787
LWR@virtualpagedepth .....	611	\endnotes (package) .....	139, 788
SideTOCDepth .....	113, 542	\engtlc (package) .....	789
tocdepth .....	113	\enlargethispage .....	13369
\cpagerefFor .....	38	\enotez (package) .....	793
crop (package) .....	770	\enskip .....	633, 13314
\CSSfilename .....	116, 120, 6647	\enumerate (environment) .....	8463
ctable (package) .....	770	\enumerate (package) .....	796
\CustomizeMathJax .....	7120, 7213	\enumitem (package) .....	796
cuted (package) .....	773	\environ (package) .....	251
cutwin (package) .....	773	environment:	
		\BlockClass .....	121
		\fminipage .....	131
		\lateximage .....	587
		\picture .....	609
		\ttitlepage .....	124
		\titlingpage .....	124
		\warpall .....	122
		\warpHTML .....	119, 122
		\warpMathJax .....	123
		\warpprint .....	118, 122
		environments:	
		\abstract .....	8129
		\align .....	95
		\align* .....	98
		\alignat .....	107
		\alignat* .....	110
		\BlockClass .....	6386
		\BVerbatim .....	257
		\center .....	12335
		\description .....	8490
		\enumerate .....	8463
		\eqnarray .....	12047
		\equation .....	11977
		\equation* .....	11985
		\fcolorminipage .....	173, 12504
		\flalign .....	101
		\flalign* .....	104
		\flushleft .....	12355
		\flushright .....	12345
		\fminipage .....	12832
		\gather .....	89
		\gather* .....	92
		\itemize .....	8455
		\lateximage .....	12190, 12330
		\list .....	8425
		\longtable .....	4
		\LWR@BlockClassWP .....	6429
		\LWR@blocktextcurrentfont	13076, 13217

LWR@displaymathnormal	11786	fancypar (package)	814
LWR@displaymathother	11789	fancyref (package)	816
LWR@equationother	11802	fancytabs (package)	816
LWR@figcaption	10634	fancyvrb (package)	816
LWR@glrbox	984	\fbox	131, 12801
LWR@nestspan	6212	\fbox (package)	823
LWR@setvirtualpage	12585	\fboxBlock	131, 12812
LWRcreatelwarpmk	1286	\fcolorbox	110, 12466
math	11785	\fcolorboxBlock	133, 12502
minipage	12611	\fcolorminipage (environment)	173, 12504
multiline	82	fewerfloatpages (package)	826
multiline*	85	figcaps (package)	826
picture	12576	figsize (package)	826
quotation	8166	file:	
quote	8158	*-images.txt	592
tabbing	8271	*_html.aux	390, 515, 516, 592
tabular	10027	*_html.lof	534
thebibliography	11183	*_html.lot	534
theindex	10924	*_html.tex	274
titlepage	7945	glyptounicode.tex	105
titlingpage	14	lwarp.css	120, 280
verbatim	8253	lwarp.ist	153, 322
verse	2, 8176	lwarp.xdy	154, 322
warpall	1270	lwarp_baseline_marker.eps	563
warpHTML	1271	lwarp_baseline_marker.png	563
warpMathJax	1277	lwarp_formal.css	317
warpprint	1274	lwarp_mathjax.txt	324
epigraph (package)	797	lwarp_one_limage.cmd	323
epsf (package)	797	lwarp_sagebrush.css	313
epsfig (package)	798	lwarp_tutorial.txt	86
epstopdf (package)	167, 798	lwarpmk.conf	280
epstopdf (program)	165, 603	lwarpmk.lua	198
epstopdf-base (package)	799	project.css	120
eqlist (package)	800	project.lwarpmkconf	280
eqnarray (environment)	12047	sample_project.css	120, 321
eqparbox (package)	800	tutorial.tex	86
equation (environment)	11977	filecontents (package)	250
equation* (environment)	11985	FileDepth (counter)	115, 392
errata (package)	801	\FilenameLimit	115, 6874
eso-pic (package)	802	\FilenameNullify	134, 11392, 13218
esvect (package)	803	\FilenameSimplify	134, 6895, 7214
\etalchar	140	FileSectionNames (boolean)	115, 354
etoc (package)	803	fitbox (package)	827
etoolbox (package)	210	fix2col (package)	827
eurosym (package)	806	fixmath (package)	827
everyhook (package)	250	fixme (package)	181, 828
everypage (package)	806	fixmetodonotes (package)	829
everyshi (package)	807	FixSmallCaps (boolean)	116, 127, 621
\expandcolspe	8958	flafter (package)	830
expl3 (package)	249	\flagverse	1251
extarrows (package)	807	flalign (environment)	101
extramarks (package)	807	flalign* (environment)	104
F		Flare (program)	77
fancybox (package)	132, 808	flippdf (package)	830
fancyhdr (package)	813	float (package)	176, 830

floatflt (package) . . . . .	832	geometry (package) . . . . .	247, 858
floatpag (package) . . . . .	833	gettitlestring (package) . . . . .	249
floatrow (package) . . . . .	177, 833	ghsystem (package) . . . . .	859
fltrace (package) . . . . .	838	[Gin]:	
\fflushbottom . . . . .	6100	class (key) . . . . .	868
\flushend (package) . . . . .	839	gindex (package) . . . . .	144, 860
\flushleft (environment) . . . . .	12355	GladTeX (program) . . . . .	76
\flushright (environment) . . . . .	12345	gloss (package) . . . . .	140, 861
\fminipage (environment) . . . . .	131, 12832	glossaries (package) . . . . .	141, 861
fnbreak (package) . . . . .	839	GlossaryCmd (option) . . . . .	111, 141, 241, 861
fncychap (package) . . . . .	839	glyphunicode.tex (file) . . . . .	105
fnlineno (package) . . . . .	840	gmeometric (package) . . . . .	863
fnpara (package) . . . . .	840	graphics (package) . . . . .	164, 864
fnpos (package) . . . . .	841	graphicx (package) . . . . .	164, 877
fontawesome (package) . . . . .	841	grffile (package) . . . . .	167, 877
fontawesome5 (package) . . . . .	842	grid (package) . . . . .	877
fontaxes (package) . . . . .	843	grid-system (package) . . . . .	878
fontenc (package) . . . . .	105, 843	gridset (package) . . . . .	878
fontspec (package) . . . . .	105, 246		
footmisc (package) . . . . .	844	<b>H</b>	
footnote (package) . . . . .	845	hang (package) . . . . .	879
footnotebackref (package) . . . . .	846	hanging (package) . . . . .	880
FootnoteDepth (counter) . . . . .	115, 383	hepunits (package) . . . . .	881
footnotehyper (package) . . . . .	846	Hevea (program) . . . . .	76
footnoterange (package) . . . . .	846	\hfill . . . . .	13267
footnoteReset (counter) . . . . .	384	\hline (package) . . . . .	882
footnpag (package) . . . . .	846	\htensor (package) . . . . .	883
\ForceHTMLPage . . . . .	138, 7334	\HomeHTMLFilename . . . . .	5903
\ForceHTMLTOC . . . . .	139, 7340	HomeHTMLFilename (option) . . . . .	107, 240
foreign (package) . . . . .	847	\hrule . . . . .	128
forest (package) . . . . .	847	\hrulefill . . . . .	128, 13269
FormatEPUB (boolean) . . . . .	187, 266	\hskip . . . . .	127
FormatWP (boolean) . . . . .	189, 267	\hspace . . . . .	127, 633, 13322, 13353, 13359
fouridx (package) . . . . .	848	\hlatex (program) . . . . .	76
fourier (package) . . . . .	848	\HTMLAuthor . . . . .	117, 125, 6684
\framebox . . . . .	12778	HTMLDebugComments (boolean) . . . . .	116, 261
framed (package) . . . . .	850	\HTMLDescription . . . . .	117, 124, 6689
FrameMaker (program) . . . . .	77	\HTMLEntity . . . . .	5885
\frontmatter . . . . .	7356	\HTMLFilename . . . . .	5902
froufrou (package) . . . . .	852	HTMLFilename (option) . . . . .	107, 240
ftcap (package) . . . . .	853	\HTMLFirstPageBottom . . . . .	113, 6635
ftnright (package) . . . . .	853	\HTMLFirstPageTop . . . . .	113, 6632
fullminipage (package) . . . . .	853	htmlglossary (option) [lwarpmk] . . . . .	141, 861
fullpage (package) . . . . .	853	HTMLIndexCmd (option) . . . . .	110, 240
fullwidth (package) . . . . .	854	\HTMLLanguage . . . . .	116, 7628
\fup . . . . .	13193	HTMLLatexCmd (option) . . . . .	109, 183, 240
\fussy . . . . .	6102	\HTMLLeftMargin (length) . . . . .	180, 439, 440, 1250
fvextra (package) . . . . .	854	\HTMLPageBottom . . . . .	117, 429, 6641
fwlw (package) . . . . .	857	\HTMLPageTop . . . . .	117, 6638
		\HTMLTitle . . . . .	116, 125, 6679
		\HTMLTitleAfterSection . . . . .	117, 7651
<b>G</b>		\HTMLTitleBeforeSection . . . . .	116, 7646
gather (environment) . . . . .	89	\HTMLUnicode . . . . .	5893
gather* (environment) . . . . .	92	\HTMLVleftskip (length) . . . . .	180, 439, 440, 1250
GELLMU (program) . . . . .	76	hypbmsec (package) . . . . .	883
gensymb (package) . . . . .	858	hypcap (package) . . . . .	884
gentombow (package) . . . . .	858		

hypdestopt (package) . . . . .	884	keystroke (package) . . . . .	916
\hyperindexformat . . . . .	11171	komascript (class) . . . . .	177
\hyperindexref . . . . .	11129	kotex (package) . . . . .	182
hypernat (package) . . . . .	884	kpfonts (package) . . . . .	918
\hyperpage . . . . .	11169	kpfonts-otf (package) . . . . .	919
hyperref (package) . . . . .	136, 524, 884	kvoptions (package) . . . . .	237
\hypertoc . . . . .	10857		
\hypertocfloat . . . . .	10880	L	
hyperxmp (package) . . . . .	894	\l@book . . . . .	10900
hyphenat (package) . . . . .	895	\l@chapter . . . . .	10902
		\l@figure . . . . .	10913
		\l@paragraph . . . . .	10911
		\l@part . . . . .	10901
I		\l@section . . . . .	10908
idxlayout (package) . . . . .	896	\l@subparagraph . . . . .	10912
\if@titlepage . . . . .	7923	\l@subsection . . . . .	10909
\ifnextchar . . . . .	160	\l@subsubsection . . . . .	10910
ifoddpage (package) . . . . .	897	\l@table . . . . .	10914
ifplatform (package) . . . . .	210	\LaTeX . . . . .	13490
\ifstar . . . . .	160	\LaTeXe . . . . .	13490
\IgnoreMinipageWidths . . . . .	130, 610, 12601	lateximage (environment) . . . . .	587, 12190, 12330
\ImageAltText . . . . .	117, 11399	\LateximageFontSize . . . . .	12120
ImagesDirectory (option) . . . . .	107, 239	\LateximageFontSizeName . . . . .	12119
ImagesName (option) . . . . .	107, 239	latexmk (option) . . . . .	107, 241
imakeidx (package) . . . . .	898	latexmk (program) . . . . .	184
imakeidx (program) . . . . .	147	LatexmkIndexCmd (option) . . . . .	110, 240
impnattypo (package) . . . . .	902	LaTeXXML (program) . . . . .	76
\includegraphics . . . . .	324	layaureo (package) . . . . .	921
indentfirst (package) . . . . .	379	layout (package) . . . . .	921
InDesign (program) . . . . .	77	layouts (package) . . . . .	921
index (package) . . . . .	902	leading (package) . . . . .	924
index (program) . . . . .	144	leftidx (package) . . . . .	924
\IndexPageSeparator . . . . .	116, 10922	\leftline . . . . .	12383
\IndexRangeSeparator . . . . .	116, 10922	length:	
IndexRef (option) . . . . .	111, 241	\HTMLleftmargini . . . . .	180, 439, 440, 1250
\InlineClass . . . . .	121, 6409	\HTMLvleftskip . . . . .	180, 439, 440, 1250
\inlinemathnormal . . . . .	161, 5878	\LWR@cmidrulewidth . . . . .	483
\inlinemathother . . . . .	161, 5874	\LWR@heavyrulewidth . . . . .	483
inputenc (package) . . . . .	105	\LWR@lightrulewidth . . . . .	483
inputenx (package) . . . . .	105	\LWR@minipageheight . . . . .	610
inputrc (package) . . . . .	903	\LWR@minipagewidth . . . . .	610
internet (class) . . . . .	76	\LWR@tempheight . . . . .	634
intopdf (package) . . . . .	904	\LWR@tempraise . . . . .	634
isomath (package) . . . . .	904	\LWR@tempwidth . . . . .	634
isotope (package) . . . . .	905	\LWR@thiscmidrulewidth . . . . .	483
itemize (environment) . . . . .	8455	\VerbatimHTMLWidth . . . . .	440
\itshape . . . . .	13125	\leftmargini . . . . .	180, 439, 1250
		\leftskip . . . . .	180, 439, 1250, 1251
J		K	
jurabib (package) . . . . .	906	letttxmacro (package) . . . . .	210
		letterspace (package) . . . . .	924
K		lettrine (package) . . . . .	925
karnaugh-map (package) . . . . .	907	lgweight . . . . .	13100
\kern . . . . .	127	libertinust1math (package) . . . . .	926
key:		LibreOffice (program) . . . . .	77
[Gin]:		linebreak . . . . .	13363
class . . . . .	868		
keyfloat (package) . . . . .	177, 910		

lineno (package) . . . . .	932	l warp_mathjax.txt (file) . . . . .	324
\LinkHome . . . . .	117, 5972, 5977	l warp_one_limage.cmd (file) . . . . .	323
\linkhomename . . . . .	113, 5969	l warp_sagebrush.css (file) . . . . .	313
\LinkNext . . . . .	117, 6005, 6018	l warp_tutorial.txt (file) . . . . .	86
\linknextname . . . . .	113, 6001	[l warpmpk]:	
\LinkPrevious . . . . .	117, 6004, 6008	htmlglossary (option) . . . . .	141, 861
\linkpreviousname . . . . .	113, 6000	printglossary (option) . . . . .	141, 861
Linux (program) . . . . .	121, 235	l warpmpk (option) . . . . .	111, 239, 328
lipsum (package) . . . . .	935	l warpmpk (program) . . . . .	198, 328
list (environment) . . . . .	8425	l warpmpk epstopdf (program) . . . . .	165, 603
listings (package) . . . . .	935	l warpmpk pdftosvg (program) . . . . .	165, 603
listlike tab (package) . . . . .	942	l warpmpk.conf (file) . . . . .	280
\listoffigures . . . . .	10778	l warpmpk.lua (file) . . . . .	198
\listoftables . . . . .	10791	\l warpsetup . . . . .	1058
\lltj ext (package) . . . . .	942	\LWR@footnotetext . . . . .	6708
\lmodern (package) . . . . .	103, 105	\LWR@makebox@align . . . . .	12734
\lofdepth (counter) . . . . .	544	\LWR@makebox@parens . . . . .	12719
\longtable (environment) . . . . .	4	\LWR@printpendingfootnotes . . . . .	6779
\longtable (package) . . . . .	173, 943	\LWR@absorbstar . . . . .	1011
\lotdepth (counter) . . . . .	544	\LWR@addbaselinemarker . . . . .	11434
\lpic (package) . . . . .	946	\LWR@addcdashline . . . . .	9348
\lscape (package) . . . . .	946	\LWR@addcmidruletrim . . . . .	9314
\ltablex (package) . . . . .	947	\LWR@addcmidrulewidth . . . . .	9345
\ltcaption (package) . . . . .	947	\LWR@addcompilecmd . . . . .	2042
\ltgrid (package) . . . . .	947	\LWR@addformatwpalignment . . . . .	9364
\ltxttable (package) . . . . .	948	\LWR@addleftmostbartag . . . . .	9152
\lua-check-hyphen (package) . . . . .	948	\LWR@addlinktitle . . . . .	10301
\lua-visual-debug (package) . . . . .	948	\LWR@addmathjax . . . . .	11882
\luacolor (package) . . . . .	948	\LWR@addmulticolvertrulecolor . . . . .	9618
\LuaLaTeX . . . . .	13519	\LWR@addrulewidth . . . . .	9319
\LuaLaTeX (program) [requirement] . . . . .	80	\LWR@addtabularcellcolor . . . . .	9493
\luamplib (package) . . . . .	949	\LWR@addtabularhrulecolor . . . . .	9392
\LuaTeX . . . . .	13519	\LWR@addtabulararrowcolor . . . . .	9377
\luatexko (package) . . . . .	949	\LWR@addtabularrulecolors . . . . .	9438
\luatodonotes (package) . . . . .	181, 951	\LWR@afterendverbatim . . . . .	8237
\luavlna (package) . . . . .	953	\LWR@afterloadnever . . . . .	93
\l warp (package) . . . . .	107	\LWR@allowanothergeometry (boolean) . . . . .	248
\l warp-common-mathjax-letters (package) . . . . .	1322	\LWR@amsbody . . . . .	12153
\l warp-common-mathjax-newpxtxmath (package) . . . . .	1329	\LWR@amsbodynumbered . . . . .	12159
\l warp-common-mathjax-nonunicode (package) . . . . .	1335	\LWR@amsmultiline (boolean) . . . . .	584
\l warp-common-mathjax-overlaysymbols (package) . . . . .	1338	\LWR@applyxfakebold . . . . .	11416
\l warp-common-multimedia (package) . . . . .	1317	\LWR@atbeginverbatim . . . . .	8216
\l warp-patch-komascript (package) . . . . .	1286	\LWR@avoiddupfilenames . . . . .	6906
\l warp-patch-memoir (package) . . . . .	1288	\LWR@backgroundcolor . . . . .	41
\l warp.css (file) . . . . .	120, 280	\LWR@beginhideamsmath . . . . .	12029
\l warp.ist (file) . . . . .	153, 322	\LWR@BlockClassWP (environment) . . . . .	6429
\l warp.xdy (file) . . . . .	154, 322	\LWR@blocktextcurrentfont (environment) . . . . .	13076, 13217
\l warp_baseline_marker.eps (file) . . . . .	563	\LWR@botnavigation . . . . .	5995
\l warp_baseline_marker.png (file) . . . . .	563	\LWR@cdashlines . . . . .	483
\l warp_formal.css (file) . . . . .	317	\LWR@cellcolordepth (counter) . . . . .	459
		\LWR@cellHTMLcolor . . . . .	9077
		\LWR@checkloadbefore . . . . .	67
		\LWR@checkloadfilename . . . . .	1452
		\LWR@checkloadnever . . . . .	232, 1451

\LWR@checkloadnevers .....	124	\LWR@excludecomment .....	1230
\LWR@clearmidrules .....	9233	\LWR@exittingtabular (boolean) .....	457
\LWR@closeparagraph .....	6532	\LWR@expandableformatted .....	1740
\LWR@closeparagraph@br .....	6522	\LWR@expandableformattedenv .....	1772
\LWR@closeprevious .....	6063	\LWR@expcolsing .....	8954
\LWR@closetabledatcell .....	8654	\LWR@externalfilecnt (counter) .....	562
\LWR@cmidrulewidth (length) .....	483	\LWR@fboxstyle .....	12794
\LWR@colafterspec .....	459	\LWR@fifthoffive .....	956
\LWR@colatsing .....	459	\LWR@figcaption (environment) .....	10634
\LWR@colbangsing .....	459	\LWR@filenamenoblanks .....	6919
\LWR@colbarsing .....	459	\LWR@filestart .....	7660
\LWR@colbeforesing .....	459	\LWR@findcurrenttextcolor .....	13207
\LWR@columnHTMLcolor .....	9075	\LWR@findword .....	1448
\LWR@columnsinglookahead .....	8785	\LWR@firstoffive .....	956
\LWR@compilecmd .....	2039	\LWR@floatalignment .....	10586
\LWR@compileuplate .....	2074	\LWR@floatalignmentname .....	10585
\LWR@convertto .....	925	\LWR@floatbegin .....	10491
\LWR@copiedsidetoc (boolean) .....	539	\LWR@floatend .....	10538
\LWR@copyfile .....	1659	\LWR@floatstyle .....	2
\LWR@createautose .....	7365	\LWR@footnotebox .....	6703
\LWR@createfooter .....	7217	\LWR@footnotetext .....	6742
\LWR@currentautosecfloatpage (counter) .....	390	\LWR@forceemptyline .....	952
\LWR@currentautosecpag .....	390	\LWR@forceminipagefullwidth (boolean) .....	611
\LWR@currentautosecpageref .....	10202	\LWR@forceminwidth .....	12783
\LWR@currentcss .....	6646	\LWR@forcenewautoidanchor .....	10561
\LWR@currenttextcolor .....	13204	\LWR@forcenewpage .....	6083
\LWR@customizedMathJax .....	7105	\LWR@forceSVGmessage .....	13775
\LWR@customizeMathJax .....	7194	\LWR@formatted .....	1724
\LWR@descitem .....	8471	\LWR@formatted@checkendname .....	1715
\LWR@disablepinyin .....	951	\LWR@formatted@checkname .....	1706
\LWR@displaymathnormal (environment) .....	11786	\LWR@formattede .....	1756
\LWR@displaymathother (environment) .....	11789	\LWR@formatting .....	1705
\LWR@docdashline .....	9282	\LWR@foundmrowcell (boolean) .....	456
\LWR@docmidrule .....	9266	\LWR@fourthoffive .....	956
\LWR@doequation .....	11907	\LWR@freezethisautoid (boolean) .....	532
\LWR@doindexentry .....	11110	\LWR@futurenonspacel .....	8580
\LWR@doindexentrysub .....	11108	\LWR@FVstyle .....	56
\LWR@doindexentrysubsub .....	11097	\LWR@getexparray .....	5847
\LWR@doingapar (boolean) .....	373	\LWR@getmynexttoken .....	8590
\LWR@doingcmidrule (boolean) .....	456	\LWR@glrbox (environment) .....	984
\LWR@doingstartpars (boolean) .....	373	\LWR@gsavebox .....	970
\LWR@doingtbrule (boolean) .....	456	\LWR@hdashedlines (counter) .....	456
\LWR@domulticolumn .....	9656	\LWR@heavyrulewidth (length) .....	483
\LWR@doubledollar .....	11677	\LWR@hidelatexequation .....	11865
\LWR@dynamicmath (boolean) .....	352	\LWR@hlines (counter) .....	456
\LWR@earlyclassloadnever .....	103	\LWR@hook@processingtags .....	6126
\LWR@earlyloadnever .....	98	\LWR@href .....	10427
\LWR@emptyatbang (boolean) .....	457	\LWR@HTML@caption@begin .....	10644
\LWR@endfloatalignment .....	10600	\LWR@HTML@caption@end .....	10655
\LWR@endhideamsmath .....	12039	\LWR@HTML@ref .....	10344
\LWR@endofline .....	13295	\LWR@htmlblockcomment .....	6317
\LWR@ensuredoingapar .....	6498	\LWR@htmlblocktag .....	6319
\LWR@equationother (environment) .....	11802	\LWR@HTMLcline .....	10008
\LWR@equationtag .....	12139	\LWR@htmlclosecomment .....	6284

\LWR@htmldivclass .....	<u>6360</u>	LWR@lateximagenumber (counter) .....	<u>588</u>
\LWR@htmldivclassend .....	<u>6365</u>	\LWR@lateximagenumberref .....	<u>10211</u>
\LWR@htmlelement .....	<u>6376</u>	\LWR@lateximagesfile .....	<u>1621</u>
\LWR@htmlelementclass .....	<u>6344</u>	\LWR@latexmkcmd .....	<u>2060</u>
\LWR@htmlelementclassend .....	<u>6352</u>	\LWR@latexmkdvipdfm .....	<u>2065</u>
\LWR@htmlelementclassline .....	<u>6368</u>	\LWR@Latexmkvar .....	<u>2054</u>
\LWR@htmlelementend .....	<u>6379</u>	\LWR@LetLtxMacros .....	<u>1007</u>
LWR@htmfilename (counter) .....	<u>355</u>	\LWR@lightrulewidth (length) .....	<u>483</u>
\LWR@htmlfileref .....	<u>10205</u>	\LWR@linkcatcodes .....	<u>10386</u>
\LWR@HTMLhline .....	<u>9989</u>	\LWR@linkmediacatcodes .....	<u>10394</u>
\LWR@HTMLLatexCmd .....	<u>2084</u>	LWR@LIPage (counter) .....	<u>588</u>
\LWR@htmlemulticolumn .....	<u>9722</u>	\LWR@listitem .....	<u>8410</u>
\LWR@htmlopencomment .....	<u>6284</u>	\LWR@listof .....	<u>10804</u>
\LWR@htmrefsectionfilename .....	<u>5959</u>	\LWR@loadafter .....	<u>20</u>
\LWR@HTMLsanitize .....	<u>7075</u>	\LWR@loadbefore .....	<u>55</u>
\LWR@HTMLsanitizeexpand .....	<u>7083</u>	\LWR@loadnever .....	<u>72</u>
\LWR@htmsectionfilename .....	<u>5919</u>	\LWR@longtabledatacaptiontag .....	<u>9731</u>
LWR@htmseqfilename (counter) .....	<u>354</u>	\LWR@lookforpackagename .....	<u>1474</u>
\LWR@htmllspan .....	<u>6259</u>	\LWR@lwarpconfversion .....	<u>2033</u>
\LWR@htmllspanclass .....	<u>6267</u>	\LWR@lwarpEnd .....	<u>7844, 13567</u>
\LWR@htmlltag .....	<u>6279</u>	\LWR@lwarpStart .....	<u>7758, 13567</u>
\LWR@htmlltagc .....	<u>6186</u>	\LWR@maketitlesetup .....	<u>34, 8020</u>
\LWR@hyperindexref@comma .....	<u>11140</u>	LWR@MathJax@silentquotes (boolean) ..	<u>397</u>
\LWR@hyperindexref@comma .....	<u>11133</u>	\LWR@mathjaxfilename .....	<u>6657</u>
\LWR@hyperindexref@range .....	<u>11145</u>	\LWR@mathjaxwarn .....	<u>13732</u>
\LWR@hyperindexrefnullified .....	<u>11114</u>	LWR@mathmacro (boolean) .....	<u>351</u>
\LWR@hyperindexrefsub .....	<u>11148</u>	LWR@maxfields@ (counter) .....	<u>670</u>
\LWR@hyperindexrefsubtwo .....	<u>11155</u>	\LWR@maybe@orignewpage .....	<u>963</u>
\LWR@includecomment .....	<u>1230</u>	\LWR@maybenewtablerow .....	<u>9084</u>
\LWR@indentHTML .....	<u>6180</u>	\LWR@maybeprintpendingfootnotes ..	<u>6799</u>
\LWR@indentHTMLtwo .....	<u>6183</u>	\LWR@maybetocdata .....	<u>10856</u>
\LWR@indexitem .....	<u>10939</u>	LWR@midrulecounter (counter) .....	<u>459</u>
\LWR@indexnameref .....	<u>11068</u>	LWR@midrules .....	<u>483</u>
\LWR@indexnameref@anonref .....	<u>11009</u>	LWR@minipagefullwidth (boolean) ..	<u>611</u>
\LWR@indexnameref@cref .....	<u>11035</u>	\LWR@minipageheight (length) .....	<u>610</u>
\LWR@indexnameref@crefnameref ..	<u>11052</u>	\LWR@minipagestartpars .....	<u>13302</u>
\LWR@indexnameref@ref .....	<u>11014</u>	\LWR@minipagesoppars .....	<u>13305</u>
\LWR@indexnameref@refnameref ..	<u>11023</u>	LWR@minipagethispar (boolean) ..	<u>612</u>
\LWR@indexsubitem .....	<u>10943</u>	\LWR@minipagewidth (length) .....	<u>610</u>
\LWR@indexsubsubitem .....	<u>10947</u>	\LWR@multicolother .....	<u>9558</u>
LWR@indisplaymathimage (boolean) ..	<u>562</u>	\LWR@multicolpartext .....	<u>9552</u>
\LWR@infoprocessingmathjax .....	<u>7140</u>	\LWR@multicolskip .....	<u>9564</u>
LWR@insidemathcomment (boolean) ..	<u>562</u>	\LWR@multirowborder .....	<u>3</u>
\LWR@instertatbangcols .....	<u>8646</u>	\LWR@mynexttoken .....	<u>8579</u>
LWR@intabularmetadata (boolean) ..	<u>457</u>	\LWR@myshorttoc .....	<u>10724</u>
\LWR@isolate .....	<u>942</u>	\LWR@nameref .....	<u>10199</u>
LWR@isstartingequation (boolean) ..	<u>589</u>	LWR@nestspan (environment) .....	<u>6212</u>
\LWR@itemizeitem .....	<u>8448</u>	\LWR@new@label .....	<u>10281</u>
\LWR@label@createtag .....	<u>10252</u>	\LWR@newautoidanchor .....	<u>10579</u>
\LWR@label@inmathcomment .....	<u>10238</u>	\LWR@newautopagelabel .....	<u>6857</u>
\LWR@label@subcreatetag .....	<u>10234</u>	\LWR@newhtmlfile .....	<u>7236</u>
\LWR@lateximage@oneimage .....	<u>12175</u>	LWR@nextautoid (counter) .....	<u>534</u>
\LWR@lateximage@oneimageb .....	<u>12166</u>	LWR@nextautopage (counter) .....	<u>534</u>
LWR@lateximagedepth (counter) .....	<u>588</u>	LWR@nextequation (counter) .....	<u>576</u>
\LWR@lateximagedepthref .....	<u>10208</u>	\LWR@nolinkurl .....	<u>10439</u>

\LWR@notltjloadafter .....	<u>42</u>	\LWR@pushoneclose .....	<u>7371</u>
\LWR@notmemoirloadafter .....	<u>39</u>	\LWR@quickfile .....	<u>1618</u>
\LWR@null@newautopagelabel .....	<u>6868</u>	\LWR@refwithsection .....	<u>10353</u>
\LWR@nullfonts .....	<u>11259</u>	\LWR@remembertag .....	<u>12143</u>
\LWR@nullifycomment .....	<u>1442</u>	\LWR@replacestrings .....	<u>7034</u>
\LWR@nullifyNoAutoSpacing .....	<u>10014</u>	\LWR@requeststoc .....	<u>7837</u>
\LWR@nulllistfills .....	<u>8417</u>	\LWR@requirepackagenames .....	<u>1440</u>
\LWR@openparagraph .....	<u>6504</u>	\LWR@restoreMathJaxformatting ..	<u>11207</u>
LWR@opttablecol (boolean) .....	<u>457</u>	\LWR@restoreorigaccents .....	<u>1982</u>
\LWR@orig@setBold .....	<u>11414</u>	\LWR@restoreorigformatting .....	<u>11208</u>
\LWR@orig@unsetBold .....	<u>11415</u>	\LWR@restoreoriglists .....	<u>8555</u>
\LWR@origcolspec .....	<u>8629</u>	\LWR@rowHTMLcolor .....	<u>9076</u>
LWR@origmathjax (boolean) .....	<u>237</u>	\LWR@ruleHTMLcolor .....	<u>9078</u>
\LWR@overline .....	<u>13199</u>	\LWR@sanitize .....	<u>1132</u>
\LWR@parseaftercolumn .....	<u>8863</u>	\LWR@sanitized .....	<u>1131</u>
\LWR@parseatcolumn .....	<u>8795</u>	\LWR@secondoffive .....	<u>956</u>
\LWR@parsebangcolumn .....	<u>8825</u>	\LWR@section .....	<u>7389</u>
\LWR@parsebarcolumn .....	<u>8875</u>	\LWR@sectionnumber .....	<u>7362</u>
\LWR@parsebeforecolumn .....	<u>8851</u>	\LWR@select@html@hspace .....	<u>13322</u>
\LWR@parsecoloncolumn .....	<u>8900</u>	\LWR@select@html@nohspase .....	<u>13353</u>
\LWR@parseDcolumn .....	<u>8949</u>	\LWR@select@print@hspase .....	<u>13356</u>
\LWR@parsedrequirepackagenames ..	<u>1441</u>	\LWR@setcurrentfont .....	<u>11417</u>
\LWR@parseenormalcolumn .....	<u>8925</u>	\LWR@setexparray .....	<u>5838</u>
\LWR@parsepcolumn .....	<u>8937</u>	\LWR@setlatestname .....	<u>10185</u>
\LWR@parsesemicoloncolumn .....	<u>8921</u>	\LWR@setOSWindows .....	<u>1046</u>
\LWR@parsestarcolumn .....	<u>8946</u>	\LWR@setref .....	<u>10193</u>
\LWR@parsetablecols .....	<u>8986</u>	\LWR@setseqfilelabel (boolean) .....	<u>355</u>
\LWR@parsewcolumn .....	<u>8941</u>	\LWR@setvirtualpage (environment) .....	<u>12585</u>
\LWR@patcherror .....	<u>933</u>	\LWR@shellescapecmd .....	<u>2034</u>
\LWR@patchlists .....	<u>8527</u>	\LWR@sidetoc .....	<u>10830</u>
\LWR@pdfencoding .....	<u>836</u>	\LWR@simplifycustom .....	<u>6894</u>
\LWR@phantomsection .....	<u>13429</u>	\LWR@simplifyname .....	<u>6883</u>
\LWR@popclose .....	<u>5797</u>	\LWR@singledollar .....	<u>11714</u>
\LWR@PreloadedPackage .....	<u>12388</u>	\LWR@singledollarmeasure .....	<u>11489</u>
LWR@prevFileDepth (counter) .....	<u>409</u>	\LWR@skipatbang (boolean) .....	<u>457</u>
LWR@previousautopagelabel (counter) .....	<u>390</u>	\LWR@skippingmcolrowcell (boolean) .....	<u>456</u>
\LWR@printatbang .....	<u>9127</u>	\LWR@skippingmrowcell (boolean) .....	<u>456</u>
\LWR@printbartag .....	<u>9117</u>	\LWR@spandepth (counter) .....	<u>373</u>
\LWR@printchaptername .....	<u>7386</u>	\LWR@spanwarnformat .....	<u>6196</u>
\LWR@printclosetlist .....	<u>8315</u>	\LWR@spanwarninvalid .....	<u>6204</u>
\LWR@PrintLatexCmd .....	<u>2084</u>	\LWR@splitstarcontents .....	<u>8957</u>
\LWR@printlength .....	<u>1422</u>	\LWR@splitstarcopies (counter) .....	<u>471</u>
\LWR@printmccoldata .....	<u>9567</u>	\LWR@splitstarindex (counter) .....	<u>471</u>
\LWR@printmccoltype .....	<u>9510</u>	\LWR@starcount (counter) .....	<u>471</u>
\LWR@printopenlist .....	<u>8316</u>	\LWR@starredlongtable (boolean) .....	<u>459</u>
\LWR@printpendingfootnotes .....	<u>6796</u>	\LWR@startedrow (boolean) .....	<u>456</u>
\LWR@printpendingmpfootnotes .....	<u>6808</u>	\LWR@startingequation (counter) .....	<u>589</u>
\LWR@printpercentlength .....	<u>926</u>	\LWR@startingequationtag .....	<u>12138</u>
\LWR@printthetitle .....	<u>7972</u>	\LWR@startnewdepth .....	<u>7375</u>
\LWR@providelength .....	<u>922</u>	\LWR@startpars .....	<u>6574</u>
\LWR@ProvidesPackageDrop .....	<u>1611</u>	\LWR@startref .....	<u>10307</u>
\LWR@ProvidesPackageDropA .....	<u>1596</u>	\LWR@stoppars .....	<u>6595</u>
\LWR@ProvidesPackageDropB .....	<u>1605</u>	\LWR@stripperiod .....	<u>10184</u>
\LWR@ProvidesPackagePass .....	<u>1565</u>	\LWR@strresult .....	<u>8627</u>
\LWR@pushclose .....	<u>5749</u>	\LWR@subaddcmidruletrim .....	<u>9301</u>

\LWR@subaddtabularcellcolor .....	<a href="#">9485</a>	\LWR@thisnewfilename .....	<a href="#">6882</a>
\LWR@subcdashline .....	<a href="#">9269</a>	\LWR@titlingmaketitle .....	<a href="#">84, 8084</a>
\LWR@subcmidrule .....	<a href="#">9251</a>	\LWR@topnavigation .....	<a href="#">5992</a>
\LWR@subcustomizedmathjax .....	<a href="#">7108</a>	\LWR@traceinfo .....	<a href="#">1687</a>
\LWR@subhtmlelementclass .....	<a href="#">6324</a>	\LWR@tracingl warp (boolean) .....	<a href="#">260</a>
\LWR@subHTMLsanitize .....	<a href="#">7055</a>	\LWR@triml rules .....	<a href="#">483</a>
\LWR@subhyperref .....	<a href="#">10402</a>	\LWR@trimr rules .....	<a href="#">483</a>
\LWR@subhyperrefclass .....	<a href="#">10416</a>	\LWR@unknownenGINE .....	<a href="#">2046</a>
\LWR@subhyperreftext .....	<a href="#">10411</a>	\LWR@unknownmATHsize (boolean) .....	<a href="#">564</a>
\LWR@subinlinelineimage .....	<a href="#">10465</a>	\LWR@url .....	<a href="#">10452</a>
\LWR@subnewref .....	<a href="#">10338</a>	\LWR@usedmultirow (boolean) .....	<a href="#">456</a>
\LWR@subsingledollar .....	<a href="#">11617</a>	\LWR@validtableCOL (boolean) .....	<a href="#">457</a>
\LWR@subsingledollarsvg .....	<a href="#">11535</a>	\LWR@verbTAGS (boolean) .....	<a href="#">440</a>
\LWR@subtableofcontents .....	<a href="#">10738</a>	\LWR@virtualpagedepth (counter) .....	<a href="#">611</a>
\LWR@subtabularhtmlcolumns .....	<a href="#">9802</a>	\LWR@vspace .....	<a href="#">13360</a>
\LWR@syncmathjax .....	<a href="#">11853</a>	\LWR@warnbaselinemarker (boolean) .....	<a href="#">564</a>
\LWR@syncnotenames .....	<a href="#">11970</a>	\LWR@warnedcustomizemathjax (boolean) .....	<a href="#">399</a>
\LWR@syncnotenumbers .....	<a href="#">11964</a>	\LWR@WPcell .....	<a href="#">9360</a>
\LWR@synconenotename .....	<a href="#">11965</a>	\LWR@write@l warplabel .....	<a href="#">10214</a>
\LWR@synconenotenumber .....	<a href="#">11959</a>	\LWR@writeconf .....	<a href="#">2186</a>
\LWR@tablecolspeC .....	<a href="#">458</a>	\LWR@xcolorrowHTMLcolor .....	<a href="#">9074</a>
\LWR@tablecolspeCindex (counter) .....	<a href="#">458</a>	\LWR@xfakebold (boolean) .....	<a href="#">562</a>
\LWR@tablecolspeCwidth (counter) .....	<a href="#">458</a>	\LWR@xindex@modifyentry .....	<a href="#">10951</a>
\LWR@tabledatacolumntag .....	<a href="#">9891</a>	\LWRcreatelwarpmk (environment) .....	<a href="#">1286</a>
\LWR@tabledatacolumntag .....	<a href="#">9166</a>	\LWRopquote .....	<a href="#">1041</a>
\LWR@tableLaTeXcolindex (counter) .....	<a href="#">458</a>	\LWRopseq .....	<a href="#">1042</a>
\LWR@tableparcell (boolean) .....	<a href="#">456</a>	\LWRPrintStack .....	<a href="#">6038</a>
\LWR@tabletotalLaTeXcols (counter) .....	<a href="#">458</a>	\LWRsetnextfloat .....	<a href="#">10630</a>
\LWR@tabletotalLaTeXcolsnext (counter) .....	<a href="#">458</a>	\LWRtexttitlecase .....	<a href="#">1002</a>
\LWR@tabular@warpprintonly .....	<a href="#">10010</a>	lyluatex (package) .....	<a href="#">953</a>
\LWR@tabularcelladded (boolean) .....	<a href="#">456</a>	\LyX .....	<a href="#">13563</a>
\LWR@tabularDepth (counter) .....	<a href="#">457</a>		
\LWR@tabularendofline .....	<a href="#">8764</a>	<b>M</b>	
\LWR@tabularfinishrow .....	<a href="#">8715</a>	Mac OS (program) .....	<a href="#">121, 235</a>
\LWR@tabularhtmlcolumns .....	<a href="#">9812</a>	\macroTocsname .....	<a href="#">996</a>
\LWR@tabularleftedge .....	<a href="#">9157</a>	Madcap (program) .....	<a href="#">77</a>
\LWR@tabularmutemods (boolean) .....	<a href="#">457</a>	magaz (package) .....	<a href="#">956</a>
\LWR@tabularpardepth (counter) .....	<a href="#">457</a>	\mainmatter .....	<a href="#">7352</a>
\LWR@tdaddstyle .....	<a href="#">9288</a>	make (program) .....	<a href="#">186</a>
\LWR@tdendstyles .....	<a href="#">9294</a>	\makebox .....	<a href="#">12743</a>
\LWR@tdstartstyles .....	<a href="#">9287</a>	\makeidx (package) .....	<a href="#">156, 956, 1221</a>
\LWR@tempcolor .....	<a href="#">13205</a>	\MakeIndex .....	<a href="#">13541</a>
\LWR@tempcolortwo .....	<a href="#">13205</a>	makeindex (option) .....	<a href="#">109, 240</a>
\LWR@tempheight (length) .....	<a href="#">634</a>	makeindex (program) .....	<a href="#">142, 153</a>
\LWR@tempraise (length) .....	<a href="#">634</a>	makeindexStyle (option) .....	<a href="#">109, 154, 239</a>
\LWR@tempwidth (length) .....	<a href="#">634</a>	\makelabel .....	<a href="#">445</a>
\LWR@textcurrentcolor .....	<a href="#">24, 13210</a>	\maketitle .....	<a href="#">48, 123, 8043</a>
\LWR@textcurrentfont .....	<a href="#">13054, 13216</a>	manyfoot (package) .....	<a href="#">956</a>
\LWR@thirdoffive .....	<a href="#">956</a>	marginal (package) .....	<a href="#">958</a>
\LWR@ThisAltText .....	<a href="#">11401</a>	marginfit (package) .....	<a href="#">959</a>
\LWR@thisautoid (counter) .....	<a href="#">532</a>	marginfix (package) .....	<a href="#">959</a>
\LWR@thisautoidWP (counter) .....	<a href="#">532</a>	marginnote (package) .....	<a href="#">959</a>
\LWR@thiscmidrulewidth (length) .....	<a href="#">483</a>	\marginpar .....	<a href="#">129, 388, 6820</a>
\LWR@thiscolspeC .....	<a href="#">9165</a>	\marginparBlock .....	<a href="#">129, 389, 6831, 6849</a>
\LWR@thisfilename .....	<a href="#">6877</a>	\markboth .....	<a href="#">6097</a>
		\markright .....	<a href="#">6098</a>

marvosym (package) . . . . .	960	multicolrule (package) . . . . .	1006
math (environment) . . . . .	11785	\multicolumnrow . . . . .	45, 9835
mathalpha (package) . . . . .	961	multimedia (package) . . . . .	169, 1006
mathastext (package) . . . . .	961	multiobjective (package) . . . . .	1008
mathcomp (package) . . . . .	962	\multirow . . . . .	1009
mathdesign (package) . . . . .	963	multirow (package) . . . . .	1008
mathdots (package) . . . . .	964	multitoc (package) . . . . .	1012
mathfixs (package) . . . . .	965	multiline (environment) . . . . .	82
\MathImageAltText . . . . .	118, 11400	multiline* (environment) . . . . .	85
MathJax (program) . . . . .	158, 160	musicography (package) . . . . .	1012
MathJax (program) [requirement] . . . . .	80		
mathjax (boolean) . . . . .	237		
mathjax (option) . . . . .	107, 238		
\MathJaxFilename . . . . .	116, 6658	N	
mathpazo (package) . . . . .	965	nameauth (package) . . . . .	1015
mathptmx (package) . . . . .	966	\Nameref . . . . .	10380
mathspec (package) . . . . .	966	\nameref . . . . .	10371
mathsvg (option) . . . . .	107, 238	nameref (package) . . . . .	1017
mathtools (package) . . . . .	163, 968	natbib (package) . . . . .	1017
mattens (package) . . . . .	974	nccfancyhdr (package) . . . . .	1018
maybemath (package) . . . . .	976	nccfoots (package) . . . . .	1019
\mbox . . . . .	12716	nccmath (package) . . . . .	1019
mcaption (package) . . . . .	977	needspace (package) . . . . .	1021
\mcolrowcell . . . . .	9968	newclude (package) . . . . .	180
mdframed (package) . . . . .	133, 977	\newfloat . . . . .	5
\mdseries . . . . .	13085	newfloat (package) . . . . .	251
mdwmath (package) . . . . .	986	\newline . . . . .	13293
media9 (package) . . . . .	169, 987	\newpage . . . . .	13290
memhfixc (package) . . . . .	989	newpxmath (package) . . . . .	1021
memoir (class) . . . . .	177, 179, 1251	\newtheorem . . . . .	443
menukeys (package) . . . . .	989	newtxmath (package) . . . . .	1022
metalogo (package) . . . . .	990	newtxsf (package) . . . . .	1023
metalogox (package) . . . . .	990	newunicodechar (package) . . . . .	105
mhchem (package) . . . . .	991	nextpage (package) . . . . .	1024
microtype (package) . . . . .	246, 994	nfssext-cfr (package) . . . . .	1024
midfloat (package) . . . . .	995	nicefrac (package) . . . . .	164, 1031
midpage (package) . . . . .	995	niceframe (package) . . . . .	1031
\MiKTeX . . . . .	13561	nicematrix (package) . . . . .	1032
minibox (package) . . . . .	995	\noalign . . . . .	9978
minipage (environment) . . . . .	12611	\nohyperpage . . . . .	11170
\minipagewidth . . . . .	12599	noitcrl (package) . . . . .	1035
minitoc (package) . . . . .	996	nolbreaks (package) . . . . .	1035
minted (package) . . . . .	996	\nolinebreak . . . . .	13364
mismath (package) . . . . .	997	nomenc (package) . . . . .	142, 1035
mlleftright (package) . . . . .	1001	nonfloat (package) . . . . .	1036
mmap (package) . . . . .	105	nonumonpart (package) . . . . .	1036
morefloats (package) . . . . .	1001	\nopagebreak . . . . .	13368
moreverb (package) . . . . .	1001	\nopagecolor . . . . .	79
movie15 (package) . . . . .	169, 1003	nopageno (package) . . . . .	1036
mparhack (package) . . . . .	1004	\normalcolor . . . . .	8
\mrowcell . . . . .	9965	\normalfont . . . . .	13163
MS-Windows (program) . . . . .	121, 235	\normalmarginpar . . . . .	6846
multibib (package) . . . . .	1004	notes (package) . . . . .	1036
multicap (package) . . . . .	1005	notespages (package) . . . . .	1037
multicol (package) . . . . .	1005	nowidow (package) . . . . .	1037
		ntheorem (package) . . . . .	162, 1038
		\numberline . . . . .	10851
		numindex (option) [tocbibind] . . . . .	157, 1221

<b>O</b>	
octave (package) . . . . .	<i>1050</i>
OpenOffice (program) . . . . .	<i>77</i>
option:	
--shell-escape . . . . .	<i>103</i>
[lwarpmk]:	
htmglossary . . . . .	<i>141, 861</i>
printglossary . . . . .	<i>141, 861</i>
[tocbibind]:	
numindex . . . . .	<i>157, 1221</i>
[tocloft]:	
titles . . . . .	<i>139</i>
BaseJobname . . . . .	<i>112, 238</i>
dvipdfm . . . . .	<i>107, 241</i>
dvipdfmx . . . . .	<i>107, 241</i>
dvips . . . . .	<i>107, 241</i>
GlossaryCmd . . . . .	<i>111, 141, 241, 861</i>
HomeHTMLFilename . . . . .	<i>107, 240</i>
HTMLFilename . . . . .	<i>107, 240</i>
HTMLIndexCmd . . . . .	<i>110, 240</i>
HTMLLatexCmd . . . . .	<i>109, 183, 240</i>
ImagesDirectory . . . . .	<i>107, 239</i>
ImagesName . . . . .	<i>107, 239</i>
IndexRef . . . . .	<i>111, 241</i>
latexmk . . . . .	<i>107, 241</i>
LatexmkIndexCmd . . . . .	<i>110, 240</i>
lwarpmk . . . . .	<i>111, 239, 328</i>
makeindex . . . . .	<i>109, 240</i>
makeindexStyle . . . . .	<i>109, 154, 239</i>
mathjax . . . . .	<i>107, 238</i>
mathsvg . . . . .	<i>107, 238</i>
OSWindows . . . . .	<i>111, 121, 235, 240</i>
pdftotextEnc . . . . .	<i>111, 239</i>
PrintIndexCmd . . . . .	<i>109, 240</i>
PrintLatexCmd . . . . .	<i>109, 183, 240</i>
warpHTML . . . . .	<i>111, 238</i>
warpprint . . . . .	<i>111, 238</i>
xindex . . . . .	<i>109, 241</i>
xindexConfig . . . . .	<i>109, 155, 239</i>
xindy . . . . .	<i>109, 241</i>
xindyCodepage . . . . .	<i>109, 239</i>
xindyLanguage . . . . .	<i>109, 239</i>
xindyStyle . . . . .	<i>109, 155, 239</i>
orcidlink (package) . . . . .	<i>1051</i>
\OSPathSymbol . . . . .	<i>1045</i>
OSWindows (option) . . . . .	<i>111, 121, 235, 240</i>
overpic (package) . . . . .	<i>169, 1052</i>
<b>P</b>	
package:	
2in1 . . . . .	<i>652</i>
2up . . . . .	<i>652</i>
a4 . . . . .	<i>652</i>
a4wide . . . . .	<i>653</i>
a5comb . . . . .	<i>653</i>
abstract . . . . .	<i>139, 653</i>
academicons . . . . .	<i>655</i>
accents . . . . .	<i>656</i>
accessibility . . . . .	<i>657</i>
acccsupp . . . . .	<i>658</i>
acro . . . . .	<i>658</i>
acronym . . . . .	<i>661</i>
addlines . . . . .	<i>663</i>
adjmulticol . . . . .	<i>662</i>
afterpage . . . . .	<i>663</i>
algorithm2e . . . . .	<i>663</i>
algorithmicx . . . . .	<i>176, 667</i>
alltt . . . . .	<i>668</i>
amscdx . . . . .	<i>669</i>
amsmath . . . . .	<i>669</i>
amsthm . . . . .	<i>673</i>
anonchap . . . . .	<i>679</i>
any size . . . . .	<i>679</i>
appendix . . . . .	<i>139, 680</i>
ar . . . . .	<i>680</i>
arabicfront . . . . .	<i>682</i>
array . . . . .	<i>682</i>
arydshln . . . . .	<i>683</i>
asymptote . . . . .	<i>169, 685</i>
atbegshi . . . . .	<i>685</i>
attachfile . . . . .	<i>686</i>
attachfile2 . . . . .	<i>687</i>
authblk . . . . .	<i>139, 689</i>
autobreak . . . . .	<i>690</i>
autonum . . . . .	<i>691</i>
awesomebox . . . . .	<i>692</i>
axessibility . . . . .	<i>693</i>
axodraw2 . . . . .	<i>694</i>
babel . . . . .	<i>180</i>
backnaur . . . . .	<i>694</i>
backref . . . . .	<i>695</i>
balance . . . . .	<i>695</i>
bding . . . . .	<i>696</i>
bilatex . . . . .	<i>701</i>
bibunits . . . . .	<i>705</i>
bigdelim . . . . .	<i>175, 705</i>
bigfoot . . . . .	<i>706</i>
bigstrut . . . . .	<i>707</i>
bitpattern . . . . .	<i>707</i>
blowup . . . . .	<i>708</i>
bm . . . . .	<i>708</i>
booklet . . . . .	<i>709</i>
bookmark . . . . .	<i>709</i>
booktabs . . . . .	<i>710</i>
bophook . . . . .	<i>712</i>
boundddvi . . . . .	<i>712</i>
boxedminipage . . . . .	<i>712</i>
boxedminipage2e . . . . .	<i>713</i>
braket . . . . .	<i>713</i>
breakurl . . . . .	<i>713</i>
breqn . . . . .	<i>714</i>

bsheaders	715	dingbat	777
bussproofs	716	ditaa	186
bxpapersize	716	DotArrow	778
bytefield	717	dotlessi	778
calc	249	dprogress	779
cancel	717	draftcopy	779
canoniclayout	718	draftfigure	779
capt-of	537	draftwatermark	780
caption	176, 537, 718	drftcite	780
caption3	720	easy-todo	781
cases	722	ebook	782
ccicons	723	econometrics	782
centerlastline	724	ed	785
centernot	724	ellipsis	785
changebar	724	embrac	786
changelayout	725	emptypage	786
changepage	725	endfloat	787
changes	726	endheads	787
chappg	731	endnotes	139, 788
chapterbib	731	engtlc	789
chemfig	732	enotez	793
chemformula	734	enumerate	796
chemgreek	739	enumitem	796
chemmacros	740	environ	251
chemnum	758	epigraph	797
chkfloat	759	epsf	797
chngpage	759	epsfig	798
cite	759	epstopdf	167, 798
citeref	760	epstopdf-base	799
CJK	760	eqlist	800
CJKUTF8	760	eqparbox	800
classicthesis	761	errata	801
cleveref	135, 761	eso-pic	802
clrdblpg	765	esvect	803
cm-super	103	etoc	803
cmap	105	etoolbox	210
cmbright	765	eurosym	806
cmdtrack	766	everyhook	250
colonequals	766	everypage	806
color	167, 767	everyshi	807
colortbl	175, 767	expl3	249
comment	244	extarrows	807
continue	769	extramarks	807
copyrightbox	769	fancybox	132, 808
crop	770	fancyhdr	813
ctable	770	fancypar	814
cuted	773	fancyref	816
cutwin	773	fancytabs	816
dblfloatfix	774	fancyvrb	816
dblfnote	774	fbox	823
dcolumn	774	fewerfloatpages	826
decimal	775	figcaps	826
decorule	775	figsize	826
dejavu	103	filecontents	250
diagbox	775	fitbox	827

fix2col	827	gridset	878
fixmath	827	hang	879
fixme	181, 828	hanging	880
fixmetodonotes	829	hepunits	881
flafter	830	hhline	882
flippdf	830	htensor	883
float	176, 830	hypbmsec	883
floatflt	832	hypcap	884
floatpag	833	hypdestopt	884
floatrow	177, 833	hypernat	884
fltrace	838	hyperref	136, 524, 884
flushend	839	hyperxmp	894
fnbreak	839	hyphenat	895
fncychap	839	idxlayout	896
fnlineno	840	ifoddpage	897
fnpara	840	ifplatform	210
fnpos	841	imakeidx	898
fontawesome	841	impnattypo	902
fontawesome5	842	indentfirst	379
fontaxes	843	index	902
fontenc	105, 843	inputenc	105
fontspec	105, 246	inputenx	105
footmisc	844	inputtrc	903
footnote	845	intopdf	904
footnotebackref	846	isomath	904
footnotehyper	846	isotope	905
footnoterange	846	jurabib	906
footnpag	846	karnaugh-map	907
foreign	847	keyfloat	177, 910
forest	847	keystroke	916
fouridx	848	kotex	182
fourier	848	kpfonts	918
framed	850	kpfonts-otf	919
froufrou	852	kvoptions	237
ftcap	853	layaureo	921
ftnright	853	layout	921
fullminipage	853	layouts	921
fullpage	853	leading	924
fullwidth	854	leftidx	924
fvextra	854	letltxmacro	210
fwlw	857	letterspace	924
gensymb	858	lettrine	925
gentombow	858	libertinust1math	926
geometry	247, 858	lineno	932
getttitlestring	249	lips	935
ghsystem	859	lipsum	935
gindex	144, 860	listings	935
gloss	140, 861	listliketab	942
glossaries	141, 861	lltjext	942
gmetric	863	lmodern	103, 105
graphics	164, 864	longtable	173, 943
graphicx	164, 877	lpic	946
grffile	167, 877	lscape	946
grid	877	ltablex	947
grid-system	878	ltcaption	947

ltxgrid	947	mismath	997
ltxtable	948	mleftright	1001
lua-check-hyphen	948	mmap	105
lua-visual-debug	948	morefloats	1001
luacolor	948	moreverb	1001
luamplib	949	movie15	169, 1003
luatexko	949	mparhack	1004
luatodonotes	181, 951	multibib	1004
luavlna	953	multicap	1005
lwarp	107	multicol	1005
lwarp-common-mathjax-letters	1322	multicolrule	1006
lwarp-common-mathjax-newpxmath	1329	multimedia	169, 1006
lwarp-common-mathjax-nonunicode	1335	multiobjective	1008
lwarp-common-mathjax-overlaysymbols	1338	multirow	1008
lwarp-common-multimedia	1317	multitoc	1012
lwarp-patch-komascript	1286	musicography	1012
lwarp-patch-memoir	1288	nameauth	1015
lyluatex	953	nameref	1017
magaz	956	natbib	1017
makeidx	156, 956, 1221	nccfancyhdr	1018
manyfoot	956	nccfoots	1019
marginal	958	nccmath	1019
margininfit	959	needspace	1021
marginfix	959	newclude	180
marginnote	959	newfloat	251
marvosym	960	newpxmath	1021
mathalpha	961	newtxmath	1022
mathastext	961	newtxsf	1023
mathcomp	962	newunicodechar	105
mathdesign	963	nextpage	1024
mathdots	964	nfssext-cfr	1024
mathfixs	965	nicefrac	164, 1031
mathpazo	965	niceframe	1031
mathptmx	966	nicematrix	1032
mathspec	966	noitcrl	1035
mathtools	163, 968	nolbreaks	1035
mattens	974	nomencl	142, 1035
maybemath	976	nonfloat	1036
mcaption	977	nonumonpart	1036
mdframed	133, 977	nopageno	1036
mdwmath	986	notes	1036
media9	169, 987	notespages	1037
memhfixc	989	nowidow	1037
menukeys	989	ntheorem	162, 1038
metalogo	990	octave	1050
metalogoxx	990	orcidlink	1051
mhchem	991	overpic	169, 1052
microtype	246, 994	pagegrid	1052
midfloat	995	pagenote	139, 1053
midpage	995	pagesel	1053
minibox	995	paralist	1053
minitoc	996	parallel	1054
minted	996	parcolumns	1056
		parnotes	1058
		parskip	1059

pbalance	1059	relszie	129, 1089
pbox	1060	repeatindex	1090
pdfcol	1060	repltext	1091
pdfcolfoot	1061	resizegather	1091
pdfcolmk	1061	returntogrid	1092
pdfcolparallel	1061	rlepsf	1092
pdfcolparcolumns	1062	rmathbr	1092
pdfcomment	1062	rmpage	1093
pdfcrypt	1063	romanbar	1093
pdfescape	1063	romanbarpagenumber	1093
pdfmarginpar	1063	rotating	1094
pdfpages	1064	rotfloat	1094
pdfprivacy	1066	rterface	185
pdfrender	1066	rviewport	1095
pdfsync	1067	sagetex	185
pdftricks	168, 1067	savetrees	1095
pdfx	1068	scalefnt	1096
perltx	185	scalerel	1096
perpage	1068	schemata	1097
pfnote	1069	scrextend	1097
phfqit	1069	scrhack	1101
physics	164, 1070	scrlayer	1101
physunits	1070	scrlayer-notecolumn	1103
picinpar	1072	scrlayer-scrpage	1103
pifont	1074	scrpaged2	1105
pinlabel	1074	section	1105
placeins	1075	sectionbreak	1106
plarydshln	1075	sectsty	1107
plexit	1075	selectp	1107
plexitarydshln	1076	semantic-markup	1108
plextcolortbl	1076	seqsplit	1109
plimsoll	1077	setspace	1110
polyglossia	180	shadethm	1111
prelim2e	1077	shadow	1111
prettyref	1077	shapepar	1112
preview	1078	showidx	1112
printlen	251	showkeys	1112
psfrag	168, 1078	showtags	1112
psfragx	1079	shuffle	1113
pst-eps	1079	sidecap	1114
pstool	168, 1080	sidenotes	1114
pstricks	168, 1080	simplebnf	1116
pxatbegshi	1081	SIunits	1117
pxeveryshi	1081	siunitx	163, 601, 1126
pxfonts	1081	siunitx-v2	1127
pxftnright	1082	skmath	1141
pxjahyper	1082	slantsc	1147
pythontex	185	slashed	1147
quotchap	1082	soul	1147
quoting	1083	soulpos	1149
ragged2e	1084	soulutf8	1150
realscripts	1084	splitbib	1150
refcheck	1088	splitidxx	1151
refcount	251	srcltx	1152
register	1088	srctex	1153

stabular	1153	tocstyle	1230
stackengine	1154	todo	1231
stackrel	1156	todonotes	181, 1232
statex2	1156	topcapt	1233
statistics	1160	tram	1234
statmath	1166	transparent	1234
steinmetz	1167	trimclip	1235
stffloats	1168	trivfloat	176, 1235
struktex	1168	truncate	1236
subcaption	176, 1169	turnthepage	1236
subfig	176, 1169	twoup	1237
subfigure	1174	txfonts	1237
subsubscripts	1175	txgreeks	1237
supertabular	174, 1176	typearea	1238
svg	1177	typicons	1239
swfigure	1178	ulem	1239
sympytex	185	umoline	1241
syntonly	1178	underscore	1242
tabfigures	1179	unicode-math	1242
tablefootnote	1179	units	164, 1246
tbls	1179	unitsdef	1247
tabularx	1180	upgreek	1248
tabulary	1180	upref	1248
tagpdf	1181	url	136, 1249
tascmac	1183	ushort	1249
tcolorbox	133, 1185	uspace	1249
tensor	1190	varioref	135, 1250
termcal	1192	varwidth	252
textarea	1193	verbatim	251
textcomp	105, 128, 1193	verse	179, 1250, 1251
textfit	1196	versonotes	1252
textpos	1197	vertbars	1252
theorem	1197	vmargin	1253
thinsp	1201	vowel	1253
thm-listof	1202	vpe	1254
thm-restate	1203	vwcol	1254
thmbox	1203	wallpaper	1256
thmtools	1204	watermark	1257
threadcol	1204	widetable	1257
threeparttable	1204	widows-and-orphans	1257
threeparttablex	174, 1205	witharrows	1258
thumb	1206	wrapfig	1259
thumbs	1207	xbmks	1261
tikz	166, 1207	xcolor	167, 604, 1261
tikz-imagelabels	1209	xexchangebar	1272
titleps	1209	xellipsis	1272
titleref	1212	xetexko	1273
titlesec	1212	xevlna	1273
titletoc	1214	xfakebold	1273
titling	139, 1216	xfrac	1274
tocbasic	1220	xifthen	251
tocbibind	156, 157, 1221	xltablear	1276
tocdata	1223	xltxtra	1277
toccenter	1224	xmpincl	1277
tocloft	139, 157, 679, 1224	xparse	249

xpatch	210	pdfx (package)	1068
xpiano	1278	perl (program) [requirement]	85
xpinyin	1278	perltex (package)	185
xr	1280	perpage (package)	1068
xr-hyper	1280	pfnote (package)	1069
xstring	251	phfqt (package)	1069
xtab	174, 1281	physics (package)	164, 1070
xunicode	1282	physunits (package)	1070
xurl	1283	picinpar (package)	1072
xy	1284	picture (environment)	609, 12576
zhlineskip	1285	pifont (package)	1074
zwpagelayout	1285	pinlabel (package)	1074
\PackageDiagramAltText	118, 11405	placeins (package)	1075
\pagebreak	13365	plrarydshln (package)	1075
\pagecolor	78	Plastex (program)	76
pagegrid (package)	1052	plex (package)	1075
pagenote (package)	139, 1053	plexarydshln (package)	1076
\pagenumbering	6103	plexcolortbl (package)	1076
\pageref	10366	plimsoll (package)	1077
\pagerefPageFor	10365	\PN@parnotes@auto	6503
pagesel (package)	1053	polyglossia (package)	180
\pagestyle	6095	\postbookname	7567
Pandoc (program)	77	\postchaptername	7571
\paragraph	7620	\postpartname	7569
paralist (package)	1053	\postsectionname	7573
parallel (package)	1054	\prebookname	7567
\parbox	12707	\prechaptername	7571
parcolumns (package)	1056	\prelim2e (package)	1077
parnotes (package)	1058	\prepartname	7569
\parsemulticolumnalignment	9603	\preselectionname	7573
parskip (package)	1059	prettyref (package)	1077
\part	7587	preview (package)	1078
pbalance (package)	1059	\printauthor	429, 7980, 7999
pbox (package)	1060	\printdate	429, 7991, 8001
pdfcol (package)	1060	printglossary (option) [lwarpmk]	141, 861
pdfcolfoot (package)	1061	\printindex	2
pdfcolmk (package)	1061	PrintIndexCmd (option)	109, 240
pdfcolparallel (package)	1061	PrintLatexCmd (option)	109, 183, 240
pdfcolparcolumns (package)	1062	printlen (package)	251
pdfcomment (package)	1062	\printhanks	428, 7957
pdfcrop (program) [requirement]	80	\printtitle	429, 7964, 7998
pdfcrypt (package)	1063	program:	
pdfLaTeX (program) [requirement]	80	[requirement]:	
pdfLandscape (package)	1063	LuaTeX	80
pdfMarginpar (package)	1063	MathJax	80
pdfPages (package)	1064	pdfcrop	80
pdfPrivacy (package)	1066	pdfLaTeX	80
pdfRender (package)	1066	pdfseparate	80, 85
pdfSeparate (program) [requirement]	80, 85	pdftocairo	80, 85
pdfSync (package)	1067	pdftotext	80, 85
pdftocairo (program)	165, 603	perl	85
pdftocairo (program) [requirement]	80, 85	XeLaTeX	80
pdftotext (program) [requirement]	80, 85	Adobe	77
pdftotextEnc (option)	111, 239	AsciiDoc	77
pdfTricks (package)	168, 1067	AsciiDoctor	77

Asciidoctor-LaTeX	77	quotation (environment)	8166
epstopdf	165, 603	quotchap (package)	1082
Flare	77	quote (environment)	8158
FrameMaker	77	quoting (package)	1083
GELLMU	76		
GladTeX	76		
Hevea	76	Ragged2e (package)	1084
htllatex	76	\raggedbottom	6099
imakeidx	147	\raggedleft	12371
InDesign	77	\raggedright	12377
index	144	\raisebox	12895
LaTeX2HTML	76	realscripts (package)	1084
latexmk	184	\ref	10344
LaTeXML	76	refcheck (package)	1088
LibreOffice	77	refcount (package)	251
Linux	121, 235	\reflectbox	398
lwarpmk	198, 328	register (package)	1088
lwarpmk epstopdf	165, 603	relsize (package)	129, 1089
lwarpmk pdftosvg	165, 603	repeatindex (package)	1090
Mac OS	121, 235	repltext (package)	1091
Madcap	77	[requirement]:	
make	186	LuaLaTeX (program)	80
makeindex	142, 153	MathJax (program)	80
MathJax	158, 160	pdfcrop (program)	80
MS-Windows	121, 235	pdfLaTeX (program)	80
OpenOffice	77	pdfseparate (program)	80, 85
Pandoc	77	pdftocairo (program)	80, 85
pdftocairo	165, 603	pdftotext (program)	80, 85
Plastex	76	perl (program)	85
splitidx	145	XeLaTeX (program)	80
TeX2page	76	\RequirePackage	1507
TeX4ht	76	\resizebox	407
TeXMaths	191	\resizegather (package)	1091
TtH	76	\ResumeTabular	9880
Unix	121, 235	\returntograd (package)	1092
Windows	121, 235	\reversemarginpar	6845
Word	77	\rightline	12385
xindex	143, 155	\rlap{psf} (package)	1092
xindy	143, 154	\rmathbr (package)	1092
project.css (file)	120	\rmfamily	13105
project.lwarpmkconf (file)	280	\rmpage (package)	1093
psfrag (package)	168, 1078	\romanbar (package)	1093
psfragx (package)	1079	\romanbarpagenumber (package)	1093
pst-eps (package)	1079	\rotatebox	356
pstool (package)	168, 1080	\rotating (package)	1094
pstricks (package)	168, 1080	\rotfloat (package)	1094
pxatbegshi (package)	1081	\rowcolor	9079
pxeveryshi (package)	1081	\rownum	9071
pxfonts (package)	1081	\rterface (package)	185
pxftnright (package)	1082	\rule	127, 13372
pxjahyper (package)	1082	\viewport (package)	1095
pythontex (package)	185		

## S

		sagetex (package)	185
		sample_project.css (file)	120, 321
\qquad	633, 13313	\savetrees (package)	1095
\quad	633, 13308		

\sb	13183	stabular (package)	1153
\scalebox	379	stackengine (package)	1154
scalefnt (package)	1096	stackrel (package)	1156
scalerel (package)	1096	\StartDefiningMath	5862
schemata (package)	1097	\StartDefiningTabulars	5852
scrextend (package)	1097	statex2 (package)	1156
scrhack (package)	1101	statistics (package)	1160
scrlayer (package)	1101	statmath (package)	1166
scrlayer-notecolumn (package)	1103	steinmetz (package)	1167
scrlayer-scrpage (package)	1103	stfloats (package)	1168
scrpage2 (package)	1105	\StopDefiningMath	5866
\scshape	13130	\StopDefiningTabulars	5856
\section	7611	struktex (package)	1168
section (package)	1105	subcaption (package)	176, 1169
sectionbreak (package)	1106	subfig (package)	176, 1169
sectsty (package)	1107	subfigure (package)	1174
selectp (package)	1107	\subparagraph	7623
semantic-markup (package)	1108	\subsection	7614
seqsplit (package)	1109	\subsubsection	7617
\SetHTMLFileName	5904	subsubscripts (package)	1175
setspace (package)	1110	supertabular (package)	174, 1176
\sffamily	13110	svg (package)	1177
\sfrac	1274	swfigure (package)	1178
shadethm (package)	1111	sympytex (package)	185
shadow (package)	1111	syntonly (package)	1178
shapepar (package)	1112		T
showidx (package)	1112	tabbing (environment)	8271
showkeys (package)	1112	tabfigures (package)	1179
showtags (package)	1112	tablefootnote (package)	1179
shuffle (package)	1113	\tableofcontents	117, 10757
sidecap (package)	1114	tbls (package)	1179
sidenotes (package)	1114	tabular (environment)	10027
SideTOCDepth (counter)	113, 542	\TabularMacro	9878
\sidetocname	115, 10827	tabularx (package)	1180
simplebnf (package)	1116	tabulary (package)	1180
\simplechapterdelim	7382	tagpdf (package)	1181
\sishape	13145	tascmac (package)	1183
SIunits (package)	1117	tcolorbox (package)	133, 1185
siunitx (package)	163, 601, 1126	tensor (package)	1190
siunitx-v2 (package)	1127	termcal (package)	1192
skmath (package)	1141	\TeX	13477
slantsc (package)	1147	\TeX2page (program)	76
slashed (package)	1147	\TeX4ht (program)	76
\sloppy	6101	\TeXMaths (program)	191
\slshape	13156	textarea (package)	1193
soul (package)	1147	\textbf	12922
soulpos (package)	1149	\textcolor	65
soulutf8 (package)	1150	\textcomp (package)	105, 128, 1193
\sp	13182	\texteb	12930
splitbib (package)	1150	\textfit (package)	1196
splitidx (package)	1151	\textgreater	5897
splitidx (program)	145	\textit	12978
srcltx (package)	1152	\textless	5895
srctex (package)	1153	\textlg	12938
\sscshape	13161	\textmd	12914

\textnormal	13029	tocenter (package)	1224
textpos (package)	1197	[tocloft]:	
\textrm	12946	titles (option)	139
\textsc	12986	tocloft (package)	139, 157, 679, 1224
\textsf	12954	tocstyle (package)	1230
\textsi	13002	todo (package)	1231
\textsl	13019	todonotes (package)	181, 1232
\textssc	13027	topcapt (package)	1233
\textsubscript	13188	\tracingl warp	205, 1686
\textsuperscript	13184	tram (package)	1234
\texttt	12962	transparent (package)	1234
\textulc	12994	trimclip (package)	1235
\textup	12970	trivfloat (package)	176, 1235
\tfl@chapter@fix	1236	truncate (package)	1236
\thanks	124	\ttfamily	13115
\thanksmarkseries	92	TTH (program)	76
\theauthor	429	turnthepage (package)	1236
thebibliography (environment)	11183	tutorial.tex (file)	86
\thedate	429	twoup (package)	1237
\theHTMLSection	7657	txfonts (package)	1237
\theHTMLTitleSection	7656	txgreeks (package)	1237
\theHTMLTitleSeparator	7633	typearea (package)	1238
theindex (environment)	10924	typicons (package)	1239
\thempfootnote	6776		<b>U</b>
theorem (package)	1197	\ulcshape	13137
\thetitle	429	ulem (package)	1239
thinsp (package)	1201	umoline (package)	1241
\ThisAltText	118, 11402	\underline	13194
\thispagestyle	6096	underscore (package)	1242
thm-listof (package)	1202	unicode-math (package)	1242
thm-restate (package)	1203	units (package)	164, 1246
thmbox (package)	1203	unitsdef (package)	1247
thmtools (package)	1204	Unix (program)	121, 235
threadcol (package)	1204	\up	13192
threeparttable (package)	1204	upgreek (package)	1248
threeparttablex (package)	174, 1205	upref (package)	1248
thumb (package)	1206	\upshape	13120
thumbs (package)	1207	url (package)	136, 1249
tikz (package)	166, 1207	\UseMinipageWidths	130, 610, 12600
tikz-imagelabels (package)	1209	ushort (package)	1249
\title	124, 6668	usingOSWindows (boolean)	236
titlepage (environment)	124, 7945	uspace (package)	1249
titleps (package)	1209		<b>V</b>
titleref (package)	1212	varioref (package)	135, 1250
titles (option) [tocloft]	139	varwidth (package)	252
titlesec (package)	1212	\verb	8201
titletoc (package)	1214	verbatim (environment)	8253
titling (package)	139, 1216	verbatim (package)	251
titlingpage (environment)	14, 124	\VerbatimHTMLWidth (length)	440
tocbasic (package)	1220	\verbatiminput	8245
[tocbibind]:		verse (environment)	2, 8176
numindex (option)	157, 1221	verse (package)	179, 1250, 1251
tocbibind (package)	156, 157, 1221	versionotes (package)	1252
tocdata (package)	1223	vertbars (package)	1252
tocdepth (counter)	113		

\vleftmargini (length) . . . . .	<i>180, 439, 1250</i>	xexchangebar (package) . . . . .	<i>1272</i>
\vleftskip (length) . . . . .	<i>180, 439, 1250, 1251</i>	\XeLaTeX . . . . .	<i>13524</i>
vmargin (package) . . . . .	<i>1253</i>	XeLaTeX (program) [requirement] . . . . .	<i>80</i>
vowel (package) . . . . .	<i>1253</i>	xellipsis (package) . . . . .	<i>1272</i>
vpe (package) . . . . .	<i>1254</i>	\XeTeX . . . . .	<i>13524</i>
\vrule . . . . .	<i>128</i>	xetexko (package) . . . . .	<i>1273</i>
\vspace . . . . .	<i>127</i>	xevlna (package) . . . . .	<i>1273</i>
vwcol (package) . . . . .	<i>1254</i>	xfakebold (package) . . . . .	<i>1273</i>
		xfrac (package) . . . . .	<i>1274</i>
		\xfracHTML{fontsize} . . . . .	<i>2</i>
		xifthen (package) . . . . .	<i>251</i>
		xindex (option) . . . . .	<i>109, 241</i>
		xindex (program) . . . . .	<i>143, 155</i>
		xindexConfig (option) . . . . .	<i>109, 155, 239</i>
		xindy (option) . . . . .	<i>109, 241</i>
		xindy (program) . . . . .	<i>143, 154</i>
		xindyCodepage (option) . . . . .	<i>109, 239</i>
		xindyLanguage (option) . . . . .	<i>109, 239</i>
		xindyStyle (option) . . . . .	<i>109, 155, 239</i>
		xltabular (package) . . . . .	<i>1276</i>
		\xltxttra (package) . . . . .	<i>1277</i>
		xmpincl (package) . . . . .	<i>1277</i>
		xparse (package) . . . . .	<i>249</i>
		xpatch (package) . . . . .	<i>210</i>
		xpiano (package) . . . . .	<i>1278</i>
		xpinyin (package) . . . . .	<i>1278</i>
		xr (package) . . . . .	<i>1280</i>
		xr-hyper (package) . . . . .	<i>1280</i>
		xstring (package) . . . . .	<i>251</i>
		xtab (package) . . . . .	<i>174, 1281</i>
		xunicode (package) . . . . .	<i>1282</i>
		xurl (package) . . . . .	<i>1283</i>
		xy (package) . . . . .	<i>1284</i>

## X

xbmks (package) . . . . .	<i>1261</i>	zhlineskip (package) . . . . .	<i>1285</i>
xcolor (package) . . . . .	<i>167, 604, 1261</i>	zwpagelayout (package) . . . . .	<i>1285</i>

## Z

# 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	160
\@ifstar with MATHJAX	160
\, .....	127
\~ .....	127
A	
accents	
in section & file names	406, 407
accessibility	102
adapting	
class	197
document	101
package	196
affiliation	
multiple authors	138
algorithmicx	
with newfloat, trivfloat	1236
alt text	102
ARIA	102
array	
mhchem	991
audio	169
author	
HTML meta tag	125, 381
multiple	138
B	
baseline	
tabular	473
bibliography	
HTML page and toc	138
bitmapped fonts	103
bugs	199
C	
<i>Calibre</i>	187
chemistry	
Greek symbols	739
class	
modifying for l warp	197
code listings	127
compiling	
custom	183
Computer Modern	103
converting	
class	197

CSS	
document	101
package	196
class	121
file selection	120
l warp.css	120
per HTML page	120
project-specific changes	120
span	121
ctable	175
D	
danger icon	209
debugging	199
HTML debug comments	260
tracing log	260
Deja Vu	103
description	
HTML meta tag	124, 382
display math	
complicated objects	162
document	
convert existing	101
documentation	
compile	195
DVI LATEX	96, 103
dynamic math	161, 162
dynamic math expressions	352
E	
endnotes	
HTML page and toc	138
EPS image	
converting	98
using	165, 603
EPUB	
conversion software	187
HTML conversion settings	187, 266
equation numbering	
MATHJAX	159
error messages	199
export	
to word processor	189
F	
FAQ	199

filename		HTML																																																																																																																																																																	
accent in	406	alt text	102																																																																																																																																																																
graphics	164, 602	class	121																																																																																																																																																																
hashed	570, 591	conversion settings	113																																																																																																																																																																
images	164, 602	debug comments	260																																																																																																																																																																
international languages	179	EPUB	187, 266																																																																																																																																																																
length	115	word processor	189, 267																																																																																																																																																																
simplify	134	conversion suggestions	126																																																																																																																																																																
underscore in	107, 129	<div>	121																																																																																																																																																																
unique	115	entities, conversion	127																																																																																																																																																																
font		filename generation	119																																																																																																																																																																
Computer Modern	103	headings	208																																																																																																																																																																
Deja Vu	103	meta tag																																																																																																																																																																	
ligatures	105	author	125, 381	packages	105	description	124, 382	selection	103	generator	420	size		$\text{lateximage}$	158, 588	math, SVG	158, 588	title	116, 117, 125, 381	$\text{xfrac}$	1274	viewport	420	type 1 vector	103	selecting print/HTML definitions	261	type 3 bitmapped	103	<span>	121	footnotes	382	style	121	MATHJAX	136	tabular column conversion	474	numbering	136	verbatim, in	127	foreign		hyperref		section names	179	and <i>xindy</i>	142	framed objects	131	title text	102	Frequently Asked Questions	199	I		G		icon		generator		warning	209	HTML meta tag	420	$\backslash@ifnextchar$ with MATHJAX	160	GIF images	166, 603	$\backslash@ifnextstar$ with MATHJAX	160	gindex	144	image		gloss	140	alt text	102	glossaries		file formats	165, 603	HTML page and toc	138	file names	164, 602	language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147
author	125, 381																																																																																																																																																																		
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HTML meta tag	420	$\backslash@ifnextchar$ with MATHJAX	160	GIF images	166, 603	$\backslash@ifnextstar$ with MATHJAX	160	gindex	144	image		gloss	140	alt text	102	glossaries		file formats	165, 603	HTML page and toc	138	file names	164, 602	language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																				
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GIF images	166, 603	$\backslash@ifnextstar$ with MATHJAX	160	gindex	144	image		gloss	140	alt text	102	glossaries		file formats	165, 603	HTML page and toc	138	file names	164, 602	language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																								
$\backslash@ifnextstar$ with MATHJAX	160																																																																																																																																																																		
gindex	144	image		gloss	140	alt text	102	glossaries		file formats	165, 603	HTML page and toc	138	file names	164, 602	language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																												
image																																																																																																																																																																			
gloss	140	alt text	102	glossaries		file formats	165, 603	HTML page and toc	138	file names	164, 602	language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																
alt text	102																																																																																																																																																																		
glossaries		file formats	165, 603	HTML page and toc	138	file names	164, 602	language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																				
file formats	165, 603																																																																																																																																																																		
HTML page and toc	138	file names	164, 602	language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																								
file names	164, 602																																																																																																																																																																		
language	141	GIF	166, 603	options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																												
GIF	166, 603																																																																																																																																																																		
options	141	graphicx package	602	processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																
graphicx package	602																																																																																																																																																																		
processing	97	hashed filename	570, 591	graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																				
hashed filename	570, 591																																																																																																																																																																		
graphics		PDF or EPS		file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																								
PDF or EPS																																																																																																																																																																			
file formats	165, 603	converting	98, 165, 603	file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																												
converting	98, 165, 603																																																																																																																																																																		
file names	164, 602	using	165, 603	Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																
using	165, 603																																																																																																																																																																		
Greek		PNG and JPG	166, 603	chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																				
PNG and JPG	166, 603																																																																																																																																																																		
chemistry symbols	739	processing	328	H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																								
processing	328																																																																																																																																																																		
H		$\backslashincludegraphics$		hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																												
$\backslashincludegraphics$																																																																																																																																																																			
hash		file names	164, 602	SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																
file names	164, 602																																																																																																																																																																		
SVG image filename	570, 591	using	165, 603	heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																				
using	165, 603																																																																																																																																																																		
heading, word processor	192	index		horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																								
index																																																																																																																																																																			
horizontal and vertical space	127	custom display styles	156	horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																												
custom display styles	156																																																																																																																																																																		
horizontal rule	128	formatting	552	horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																																
formatting	552																																																																																																																																																																		
horizontal space		gindex		between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																																				
gindex																																																																																																																																																																			
between minipages	633	setup	144	\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																																								
setup	144																																																																																																																																																																		
\hrule	128	HTML page and toc	138	$\backslashmakeidx$		setup	147																																																																																																																																																												
HTML page and toc	138																																																																																																																																																																		
$\backslashmakeidx$																																																																																																																																																																			
setup	147																																																																																																																																																																		

<i>index</i>	
setup .....	144
letter headings .....	898
<i>makeindex</i>	
custom style file .....	153
setup .....	142
<i>memoir</i>	
setup .....	150
placement .....	156
placement and toc options .....	156, 1221
processing .....	90, 91, 142
see, seealso, ranges .....	142
source code .....	142
<i>splitidx</i>	
setup .....	145
table of contents .....	156, 1221
<i>tocbibind</i> .....	156
UTF-8 .....	106
<i>xindex</i>	
custom configuration file .....	155
setup .....	143
<i>xindy</i>	
custom style file .....	154
and hyperref .....	142
setup .....	143
inline math	
complicated objects .....	161
international	
section names .....	179
item	
empty .....	444
<b>J</b>	
JAVASCRIPT	
MATHJAX .....	157
JPG images .....	166, 603
<b>L</b>	
language	
glossaries .....	141
localization .....	102
language HTML metadata .....	418
lateximage	
font size .....	158, 588
processing .....	328
Latin Modern font .....	103
LIBREOFFICE	
conversion recommendations .....	192
import into .....	189
section headings .....	192
ligatures .....	105, 246
line numbers .....	209
link	
home / previous / next page .....	117
title text .....	102
<b>list</b>	
empty item .....	444
filename .....	129
listings, program code .....	127
locale .....	186
localization .....	102
LuaL <sup>A</sup> T <sub>E</sub> X	
detection .....	210
file & section names .....	407
l <sub>w</sub> arp	
compiling documentation .....	195
loading .....	107
options .....	107
l <sub>w</sub> arp.ist	
customizing .....	153
l <sub>w</sub> arp.xdy	
customizing .....	154
l <sub>w</sub> arpmk	
customizing .....	198
<b>M</b>	
make utility .....	186
<i>makeindex</i> .....	142
customizing .....	153
margin	
numbers .....	209
tags .....	209
markup languages .....	77
math	
alt text .....	102
display with complicated objects .....	162
dynamic .....	161, 162, 352
MATHJAX .....	159
font size — SVG .....	158, 588
inline with complicated objects .....	161
MATHJAX custom functions .....	159
MATHJAX summary .....	158
mathjax option .....	238
mathsvg option .....	238
mhchem .....	991
SVG summary .....	158
word processor conversion .....	191
MATHJAX	
\@ifnextchar macros .....	160
\@ifstar macros .....	160
accessibility .....	102
custom functions .....	159
custom script .....	324
equation numbering .....	159
mathjax option .....	238
starred macros .....	160
summary .....	158
\mcolrowcell .....	172
MD5 hash	
SVG image filename .....	570, 591

<b>memoir</b>	
<b>framewithtitle, titledframe</b> . . . . .	<b>178</b>
<b>meta tag, HTML</b>	
author . . . . .	<b>125, 381</b>
description . . . . .	<b>124, 382</b>
generator . . . . .	<b>420</b>
title . . . . .	<b>125, 381</b>
viewport . . . . .	<b>420</b>
<b>minipage</b>	
framed . . . . .	<b>131</b>
horizontal space between . . . . .	<b>633</b>
<b>modifying</b>	
class . . . . .	<b>197</b>
document . . . . .	<b>101</b>
package . . . . .	<b>196</b>
<b>\mrowcell</b> . . . . .	<b>172</b>
<b>\multicolumn</b>	
with <b>\multirow</b> . . . . .	<b>172</b>
<b>multimedia</b> . . . . .	<b>169</b>
<b>multiple projects in a directory</b> . . . . .	<b>98</b>
<b>\multirow</b>	
with <b>\multicolumn</b> . . . . .	<b>172</b>
<b>multirow</b>	
<b>\mrowcell</b> and <b>\mcolrowcell</b> . . . . .	<b>172</b>
 <b>N</b>	
<b>navigation</b>	
link to home / previous / next page . . . . .	<b>117</b>
<b>newfloat</b>	
with <b>trivfloat, algorithmicx</b> . . . . .	<b>1236</b>
<b>nomencl</b> . . . . .	<b>142</b>
<b>numbers</b>	
left margin . . . . .	<b>209</b>
 <b>P</b>	
<b>package</b>	
modifying for <b>lwarp</b> . . . . .	<b>196</b>
required . . . . .	<b>246</b>
<b>\par</b>	
hooks . . . . .	<b>377</b>
<b>PDF image</b>	
converting . . . . .	<b>98</b>
using . . . . .	<b>165, 603</b>
<b>PERL</b> . . . . .	<b>85</b>
<b>PNG images</b> . . . . .	<b>166, 603</b>
<b>POPPLE</b> . . . . .	<b>80, 85</b>
<b>print</b>	
selecting print/HTML definitions . . . . .	<b>261</b>
<b>problems</b> . . . . .	<b>199</b>
<b>program listings</b> . . . . .	<b>127</b>
<b>programs</b>	
utility . . . . .	<b>79</b>
<b>projects</b> . . . . .	<b>98</b>
<b>\published</b> . . . . .	<b>436</b>
 <b>R</b>	
<b>roles</b>	
ARIO . . . . .	<b>102</b>
<b>rule</b>	
horizontal . . . . .	<b>128</b>
 <b>S</b>	
<b>section</b>	
depths . . . . .	<b>208</b>
file names . . . . .	<b>134</b>
heading, word processor . . . . .	<b>192</b>
international languages . . . . .	<b>179</b>
<b>settings</b>	
accessibility . . . . .	<b>102</b>
CSS project-specific . . . . .	<b>120</b>
CSS selection . . . . .	<b>120</b>
filenames . . . . .	<b>113</b>
HTML conversion . . . . .	<b>113</b>
language . . . . .	<b>102</b>
<b>lwarp</b> package options . . . . .	<b>107</b>
selecting print/HTML output . . . . .	<b>122</b>
title page . . . . .	<b>123</b>
<b>shell escape</b> . . . . .	<b>103</b>
<b>sideroc</b>	
name . . . . .	<b>102</b>
<b>sideroc</b>	
depth . . . . .	<b>113</b>
<b>siunitx</b>	
with <b>TeXMaths</b> . . . . .	<b>191</b>
<b>space</b>	
horizontal	
between minipages . . . . .	<b>633</b>
horizontal and vertical . . . . .	<b>127</b>
<b>stack depths</b> . . . . .	<b>208</b>
<b>starred macros</b> . . . . .	<b>160</b>
<b>\StartDefiningTabulars</b> . . . . .	<b>171, 453</b>
<b>\subtitle</b> . . . . .	<b>436</b>
<b>SVG</b>	
converting from PDF or EPS . . . . .	<b>98</b>
dynamic math . . . . .	<b>352</b>
image processing . . . . .	<b>328</b>
math summary . . . . .	<b>158</b>
mathsvg option . . . . .	<b>238</b>
 <b>T</b>	
<b>tabular</b>	
baseline . . . . .	<b>473</b>
HTML columnn conversion . . . . .	<b>474</b>
in environments, catcode of & . . . . .	<b>171, 453</b>
macros inside . . . . .	<b>171, 453</b>
<b>\multicolumn</b> with <b>\multirow</b> . . . . .	<b>172</b>
<b>\multirow \mrowcell</b> and <b>\mcolrowcell</b> . . . . .	<b>172</b>
<b>\StartDefiningTabulars</b> . . . . .	<b>171, 453</b>
<b>tikz</b>	
catcodes . . . . .	<b>1207</b>

dollar redefined .....	1207	<b>V</b>	
title		vector fonts .....	103
HTML meta tag .....	125, 381	verbatim	
titlepage		code and HTML tags .....	127
\subtitle and \published .....	436	vertical space .....	127
tracing log .....	260	video .....	169
trivfloat		viewport	
with newfloat, algorithmicx .....	1236	HTML meta tag .....	420
troubleshooting .....	199	<b>W</b>	
HTML debug comments .....	260	warning icon .....	209
tracing log .....	260	word processor	
type 1 vector fonts .....	103	conversion recommendations .....	192
type 3 bitmapped fonts .....	103	HTML conversion settings .....	189, 267
<b>U</b>		section headings .....	192
underscore		<b>X</b>	
filename .....	107, 129	xcite .....	98
Unicode		XeLATEX	
enhanced coverage .....	103	detection .....	210
file & section names .....	407	file & section names .....	407
input characters .....	228	xindex .....	143
selection .....	103	customizing .....	155
UTF-8		xindy .....	143
enhanced coverage .....	103	and hyperref .....	142
file & section names .....	407	customizing .....	154
index .....	106	xr .....	98
locale .....	186	xr-hyper .....	98
selection .....	103		
utility			
programs .....	79		

# 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 with higher page numbers 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 for a given package.

A	C
abstract	boxes ..... 129
missing toc ..... 139, 653	breqn
accents	darray ..... 714
file names ..... 406	bussproofs ..... 716
acro ..... 181	
acronym	
multiply-defined labels ..... 661	<i>Calibre</i>
\AddSubtitlePublished ..... 436	EPUB conversion ..... 187
affiliation ..... 429	caption
alt tags ..... 162, 203	numbering ..... 176
amscdx ..... 669	options ..... 126
AMSMath	changes ..... 726
ntheorem	chemfig ..... 182
numbering ..... 162, 1038	chemformula
appendix	MATHJAX ..... 182, 734
incorrect toc link ..... 139, 680	chemgreek
array	fontspec mapping ..... 739
chemformula ..... 182	text-mode symbols ..... 739
MATHJAX ..... 160	chemmacros
arydshln ..... 683	\makopolymerdelims ..... 740
audio ..... 169	redox reactions ..... 740
authblk	Chinese
\theauthor ..... 428, 429	font ..... 127
titling ..... 139, 428, 689, 1216	CJK
author	font ..... 127
affiliation ..... 429	cleveref
formatting ..... 124	cref reference format undefined ..... 162
autonum ..... 691	cmbright ..... 765
	colortbl ..... 175, 767
	Command \textquoteright invalid in
	math mode ..... 203
	comment ..... 178, 1289
	compiling
	slow MATHJAX ..... 159
	cref reference format undefined ..... 162
	cross reference
	incorrect link ..... 204
	MATHJAX ..... 160
	missing ..... 203
	CSS ..... 205
	ctable ..... 175
B	D
babel	
French ..... 180	ditaa ..... 186
backref ..... 695	
backref ..... 136	
bibliography	
HTML page and toc ..... 138	
bibtex	
\etalchar ..... 140	
Improper \prevdepth ..... 140	
bigdelim ..... 175, 705	
bigfoot ..... 137, 957	
booktabs ..... 710	

documentation	
index cross-references	195
dotless j	105
dotlessj	201
duplicate filename	135
<b>E</b>	
\endhead, etc.	173
endnotes	
HTML page and toc	138
numbering	139
\ensuremath	202
epstopdf	167, 799
EPUB	
encoding	187
page order	187
search order	187
section breaks	188
equation numbering	
MATHJAX	159
error messages	199
\etalchar	140
<b>F</b>	
fancybox	
\VerbatimFootnotes	137, 809, 817
fancypar	814
fancyvrb	
\VerbatimFootnotes	137, 809, 817
figure	
macro in name	202
file	
inaccessible	115
multiple projects in directory	98
File ended while scanning use of \next	201
filename	
accents	406
corrupted	134, 179
duplicate	135
image extension	164, 602
international, UTF-8	179
Korean	182
macro in name	134
math in	101, 135, 157
Missing \$ inserted	202
fixme	181, 828
float	
alignment	128, 175
not seem to be a floating environment	831
numbering	176
out of sequence	204
float	831
floatrow	
\FBwidth and \FBheight	177, 834
with subfig	177, 834
<b>floatrow</b>	
\ttabbox	170, 452
font	
CJK	127
JETBRAIN MONO	105
ligatures	105
missing symbols	128, 1193
monospace	105
package conflicts	103
selection	103
small caps	127
UTF-8	103
fontspec	
with monospaced fonts	105
with Xe <sup>L</sup> A <sub>T</sub> E <sub>X</sub> , Lua <sup>L</sup> A <sub>T</sub> E <sub>X</sub>	103
footmisc	137, 382
footnote	
displaymath	137, 809, 817
in math	137
in sectioning command	136
MATHJAX	136
memoir	137, 383
numbering	136
paragraph tags	137, 809, 817
sectioning, footmisc	137, 382
sectioning, verbatim	137, 809, 817
title	428
verbatim	137
\VerbatimFootnotes	137, 809, 817
forest	847
formatting	
\bfseries etc.	127, 621
fourier	848
frames	131
framewithtitle	178
<b>G</b>	
gloss	140
glossaries	
HTML page and toc	138
makeglossaries not found	141, 861
page numbers	141, 862
style	141, 862
graphics	
\rotatebox, \scalebox, \reflectbox	
	166, 604
image format priorities	166, 603
images out of order	92, 204
multimedia	169
optional arguments	166, 603
scale option	101, 166, 604
scaled	865
viewport	166, 603
Greek packages	739
grffile	167, 877

	<b>H</b>	
\hrule	128	see and seealso . . . . . 155
HTML		styling references . . . . . 155
&, <, >	127, 621	<i>xindy</i>
alt tags	162	and hyperref . . . . . 155
author	382	xstring bug . . . . . 251
corrupted	105, 124, 129, 201, 205	isomath . . . . . 904
entities	127, 621	
image appear as HTML code	92, 204	<b>J</b>
inaccessible pages	115, 117	\j . . . . . 105
starred section	139	Japanese
invalid	127	font . . . . . 127
missing pages		JETBRAIN MONO . . . . . 105
filename not unique	115	
recompile	205	<b>K</b>
SideTOCDepth and FileDepth	115	keyfloat . . . . . 177, 910
SideTOCDepth and tocdepth	115	Korean
page did not update	115, 205	font . . . . . 127
settings		kfonts . . . . . 918
changed	113	kfonts-otf . . . . . 919
undefined	201	
validation	127	<b>L</b>
\HTMLAuthor	382	label
HTMLIndexCmd		\nameref empty . . . . . 135, 203
filenames	110	characters . . . . . 135, 203
hyperref		Label(s) may have changed . . . . . 202
backref	136	LaTeX was unable to guess the total... . . . . . 202
comments between arguments	136	\LateximageFontSizeName . . . . . 589
incorrect link	204	Leaders not followed by proper glue . . . . . 202
Token not allowed in a PDF string	203	<i>LibreOffice</i>
		import . . . . . 189
<b>I</b>		ligatures . . . . . 105
image		link
appears as HTML code	92, 204	empty . . . . . 135, 203
extension case	164, 602	LINUX . . . . . 121, 235
format priorities	166, 603	list
incorrect	92, 204	empty item . . . . . 128, 444
not displayed	164, 602	listings . . . . . 204
SVG math size and baseline	158	lists
viewport	166, 603	label formatting . . . . . 445
Improper \prevdepth		locale . . . . . 186
bibtex	140	longtable
boxes	202	\endhead, etc. . . . . 173
\includegraphics		lrbox . . . . . 129
optional arguments	166, 603	ltxtable
scale	101, 166, 604	numbering . . . . . 948
index		luatATEX . . . . . 103
?? and non-functional link	111	lwarpmk.conf . . . . . 90, 91
documentation references	195	lwarpmk . . . . . 90, 91
empty	156	\LWRbackslash . . . . . 183
empty link	135, 203	\LWRdollar . . . . . 183
formatting	111, 552	\LWRhash . . . . . 183
HTML page and toc	138	\LWRopquote . . . . . 183
missing entries	142	\LWRopseq . . . . . 183
numbers, not links	251	\LWRpercent . . . . . 183
reference ranges	155	
		<b>M</b>
		MAC OS . . . . . 121, 235

<i>makeglossaries</i>	
not found .....	141, 861
\makelabel .....	445
manyfoot .....	137, 957
\marginpar .....	129, 388
math	
\@ifnextchar macros and MATHJAX .....	160
\@ifstar macros and MATHJAX .....	160
alt tags .....	203
appears as HTML code .....	92, 204
baseline incorrect .....	158
chemformula .....	182
Command \textquoteright invalid	
in math mode .....	203
custom macros .....	202
dynamic .....	352
equation numbering	
MATHJAX .....	159
ntheorem .....	162, 1038
file name .....	101, 135, 157
footnote .....	137
MATHJAX .....	136
in T <sub>E</sub> X boxes .....	158
incorrect .....	92, 204, 352
non-math contents .....	203
section name .....	101, 135, 157
size incorrect .....	158
slow or failed compile .....	203
MATHJAX .....	160
tabbing .....	170, 443
Tikz .....	162
mathalpha .....	961
mathdesign .....	963
MATHJAX	
\@ifnextchar macros .....	160
\@ifstar macros .....	160
arydshln .....	683
booktabs .....	710
chemformula .....	182, 734
custom script .....	324
equation numbering .....	159
errors .....	162, 203, 352
footnotes .....	136
mathtools .....	163, 968
mhchem .....	991
\multicolumn .....	160
\multirow .....	160, 173, 1009
physics .....	164
references .....	160
siunitx .....	164, 601, 1127
slow compilation .....	159
starred macros .....	160
unicode-math .....	1242
unsupported packages .....	161, 203
mathpazo .....	965
mathptmx .....	966
mathspec .....	966
mathtools .....	163, 968
maybemath .....	976
\mcolrowcell .....	172
media9 .....	169
memoir	
framewithtitle, titledframe .....	178
captions .....	177, 1289
comment .....	178, 1289
footmisc .....	137, 383
options clash .....	177, 1289
page notes .....	178, 1289
verse	
margin .....	180, 439, 1251
version clash .....	178, 1289
mhchem	
MATHJAX .....	991
nested dollar signs .....	991
minipage	
alignment .....	130, 610
horizontal space between .....	633
in a span .....	130, 610
inline .....	129, 609
multicols, width in .....	130, 610
size .....	130, 610
tabular, width in .....	130, 610
minted .....	996
Misplaced \noalign .....	173, 943
tabular	
rules .....	172, 454
Misplaced \omit	
tabular .....	264
Misplaced alignment tab character &	
ctable .....	175, 770
floatrow .....	177, 834
frames .....	131
supertabular .....	174, 1176, 1281
tabular	
macros .....	170, 351, 452
Missing \$ inserted	
filename or URL .....	202
Missing \begin{document}	
package options .....	126
morewrites .....	156, 202
movie15 .....	169
\mrowcell .....	172
MS-WINDOWS .....	121, 235
multicol	
\linewidth .....	130, 610
\multicolumn	
MATHJAX .....	160
multimedia .....	169
multiple projects in a directory .....	98

multiply-defined labels	
acronym	661
\multirow and \multicolumn	173, 1009
multirow	
MATHJAX	160, 173, 1009
\mrowcell and \mcrowcell	172
N	
newclude	180
newpxmath	1021
newtxmath	1022
newtxsf	1023
nicefrac	164
nicematrix	1032
No room for a new \write	202
nomenc	142
ntheorem	1038
cref reference format undefined	162
font	162, 1038
numbering	162, 1038
O	
operating system	121, 235
options	
clash with memoir	177, 1289
with braces	126
overpic	169, 1052
P	
package	
MATHJAX support	161
options with braces	126
version numbers with memoir	178, 1289
page	
inaccessible	115
page counter	
references	135
SVG images	92, 204
page numbers	135, 203, 761
pagenote	139, 1053
pdfricks	168, 1067
perltx	185
pfnote	
numbering	137, 1069
physics	
MATHJAX	164
polyglossia	
Undefined control seq ... begindocument	180, 647
poppler	
Syntax Warning (ligature)	841
PrintIndexCmd	110
projects	
multiple	98
psfrag	168
pstool	168, 1080
pstricks	168, 1080
pythontex	185
R	
reference	
% character between arguments	204
empty link	135, 203
incorrect link	204
label characters	135, 203
MATHJAX	160
missing or incorrect	203
page number	135, 203, 761
undefined	
tcolorbox	134
repeatindex	1090
rlepsf	1092
rterface	186
Runaway argument? File ended	201
S	
sample_projects.css	
overwritten	120
\savebox	129
\sbox	129
scale (includegraphics option)	
.....	101, 166, 604
sectioning	
accents	406
duplicate name	135
international language	179
macro in name	134, 202
math in name	101, 135, 157
missing	115
starred section	139
word processor import	192
seqsplit	1109
sidenotes	
numbering	136
sunitx	
.....	163, 601, 1127
MATHJAX	164, 601, 1127
S column	172, 454
tabular S and s columns	163, 601, 1127
v3	
.....	163, 601, 1127
with TeXMaths	191
small caps	127
splitidx	
\thepage and \AtWriteToIndex	145, 1151
statistics	1160
subcaption	
numbering	176
subfig	
inline	176, 1170
numbering	176, 1169
options	176, 1170
with floatrow	177, 834

subtable	\theauthor and authblk . . . . .	428, 429
numbering		
subfig	176, 1169	
SVG image		
appears as HTML code	92, 204	
incorrect	92, 204	
math incorrect	352	
math size and baseline	158	
out of order	92, 204	
sympytex	186	
Syntax Warning (ligature)	841	
<b>T</b>		
tabbing		
math	170, 443	
table		
macro in name	202	
numbering		
ltxtable	948	
subfig	176, 1169	
Table of Contents		
missing	117	
tabular		
baselines	473	
corrupt rows	170, 452, 505	
\endhead, \endfoot, \endlastfoot		
.....	173, 943	
inside an environment	170, 452, 505	
\kill	174, 943	
macro inside	171, 453	
Misplaced \noalign	172, 454	
Misplaced alignment tab character &		
macros	170, 452	
rules	351	
\multicolumn with \multirow	172	
multirow \mrowcell and \mcrowcell		
.....	172	
\newcolumntype	171, 453	
numbering	1276	
row corruption	171, 453	
rules	172, 454	
S column	172, 454	
tcolorbox	133	
Temporary page ... unable to guess	202	
tensor	1190	
TeX capacity exceeded		
Text input levels equals 15	202	
TeXMaths	191	
text		
&, <, >	127, 621	
\bfseries etc.	127, 621	
corrupted	103	
Text input levels equals 15	202	
textcomp		
missing symbols	128, 1193	
\textquoteright invalid in math mode	203	
<b>U</b>		
Undefined control seq ... begindocument		
polyglossia		180, 647
Unicode		
fonts		103
UTF-8 locale		186
unicode-math		1242
units		164
UNIX		121, 235
URL		
Missing \$ inserted		202
\usebox		129
UTF-8		
locale		186
<b>V</b>		
varioref		136
verbatim		
footnote		137
framed		132, 809
VerbatimFootnotes		137, 809, 817
verse		
spacing		180, 439, 1251
verse		
margin		180, 439, 1251
version numbers		
with memoir		178, 1289
video		169
viewport		166, 603
<b>W</b>		
warning messages		199
\warpall		122, 201

warpHTML . . . . .	122, 201	xfrac . . . . .	1274
warpMathJax . . . . .	123, 201	<i>xindy</i>	
warpprint . . . . .	122, 201	and hyperref . . . . .	155
WINDOWS . . . . .	121, 235	options	
word processor		HTMLIndexCmd . . . . .	110
import . . . . .	189	LatexmkIndexCmd . . . . .	111
sectioning headings . . . . .	192	PrintIndexCmd . . . . .	110
		xltabular	
		numbering . . . . .	1276
<b>X</b>			
xcite . . . . .	98	xr . . . . .	98
xeLATEX . . . . .	103	xr-hyper . . . . .	98
xfakebold . . . . .	1273	xstring . . . . .	251

## **Index of Indexes**

<b>C</b>		<b>I</b>	
Change History .....	1339	Index of Objects .....	1379
<b>G</b>		<b>T</b>	
General Index .....	1403	Troubleshooting Index .....	1408